

The JOURNAL of
The American Society of Architectural Historians
Vol. 2, No. 4 October, 1942

C O N T E N T S

A reexamination into the Invention of the Balloon Frame by Walker Field	page 3
The Restoration of the Manigault House by Beatrice St. J. Ravenel	page 30
Reviews of Architectural Books:	
K.J. Conant; A Brief Commentary on Early Medieval Church Architecture	page 33
review by Carl K. Hersey	
John Coolidge; Mill and Mansion	page 35
review by C.L.V. Meeks	
J.L. Sert; Can Our Cities Survive	page 37
review by Carl Feiss	
Perils of Research	page 39
News Items:	
Washington ASAH	page 40
New York City ASAH	page 40
Thornton Society Established	page 41
Jefferson Bicentennial	page 41
Mattaponi Goes to War	page 41
Death of Sir Reginald Blomfield	page 42
Detroit Reviews its Architecture	page 42
Next Steps	page 44
Current Bibliography in Architectural History	page 45

Published by the Editor, Turpin C. Bannister,
at the Department of Architecture, in the
Rensselaer Polytechnic Institute, Troy, New York.

The AMERICAN SOCIETY of ARCHITECTURAL HISTORIANS

founded 1940

Aims:

1. To provide a useful forum and to facilitate enjoyable contacts for all those whose special interest is the History of Architecture.
2. To foster an appreciation and understanding of the great buildings and architects of historic cultures.
3. To encourage research in architectural history, and to aid in disseminating the results of such research.
4. To promote the preservation of significant architectural monuments.

Directors:

Kenneth J. Conant, Harvard University
John Coolidge, Princeton, New Jersey
Leicester B. Holland, Library of Congress
Fiske Kimball, Philadelphia Museum of Art
Roxford Newcomb, University of Illinois
Albert Simons, Charleston, South Carolina

President:

Turpin C. Bannister, Rensselaer Polytechnic Institute

Secretary-Treasurer:

Carroll L.V. Meeks, Yale University

Local Chapters:

Boston-Cambridge: Kenneth J. Conant, president

New York City: Talbot F. Hamlin, chairman

Washington: Alan Burnham, 1117 E. Capitol St., chairman.

A REEXAMINATION INTO THE INVENTION OF THE BALLOON FRAME

by Walker Field

It has been said that America has evolved no "wholly independent national architectural style"(1). The buildings we are apt to consider our finest too often have been derived from European models and historic precedents. This cultural dependence has not, of course, been confined to architectural phenomena; nor does it need apology when one remembers ties of blood and patterns of growth.

But, notwithstanding, Americans have, in their own way, made rich contributions to the art of building. They have "originated new construction methods, new types of buildings, and a distinctively American treatment of composition and mass."(2) Gradually, but irresistably, these structural developments have so influenced design that, in more recent times, American architecture has pointed the way to a new functionalism and the denial of historical formulae. This tendency, inherent in the nature of our society, rejects the precious and cultivates the utilitarian; and from this point of view a finely made steel spring can stimulate aesthetic delight as surely as an antique Venus.

In architecture this new attitude encourages the study of building types once disregarded. No longer must a building be a monument to be worthy of consideration; indeed it is America's concern for everyday practical structures--factories, mills, lofts, offices, and cottages--that gives her architecture significance.

To symbolize these characteristic American developments, no more illuminating subject can be chosen than the evolution of the balloon frame (3). Not only does it represent the first great impact of Americanism upon architecture; but it epitomizes similar developments that follow. Through it, one realizes the importance to progress of American individualism, as reflected in the pioneer, the land promoter, and

-
- (1) A. D. F. Hamlin, A Textbook of the History of Architecture (rev.ed; New York, 1922) p. 405.
 - (2) *ibid*, p. 420.
 - (3) Cf. Siegfried Giedion, "American Development in Design," in New Directions, 1939 (Norfolk, 1939); this material was later revised and incorporated in Giedion, Space, Time, and Architecture (Cambridge, Mass., 1941). This stimulating and suggestive book inspired the present study.
-

Walker Field, a resident of Chicago, graduated from Harvard University in 1942, where he majored in history. The JOURNAL welcomes this able paper, not only as an indication that general historians are awakening to the cultural importance of American architectural history, but also because Mr. Field has courageously chosen to unravel the tangled story of a technical invention too long buried in obscurity.

the independent and practical craftsman (4). More concretely, it exemplifies those twin conditions that underlie all that is American in our building arts: the chronic shortage of skilled labor, and the almost universal use of wood.

The first of these is obvious, but must not be underestimated; it imposed simplicity of form as the dominant characteristic of a large portion of our buildings. It is the second, however, the long established habit of using wood, that carries far more subtle implications. In contrast to the piled-up masonry bearing walls of European architects, our hard pressed colonists had little time, skill, or energy to devote to the complexities of stone quarrying, stone cutting, or stone setting. The great forests, stretching westward, afforded material far easier to acquire and work. Wood, from its very nature, encouraged framed construction rather than heavy supporting walls; and it is to the colonists' credit that they quickly realized its potentialities (5). But working in wood almost exclusively, the craftsman came to think almost exclusively in terms of framework structures (6). As a result, design became less and less a question of exterior envelop, and more and more organic, free, and practical. Thus freedom of plan and simplicity of form are seen to be but two phases of a single tendency derived from the characteristics of the building material at hand (7).

Despite their widespread use of wood, American craftsmen retained a healthy respect for current European "prestige" styles based on masonry forms, and did not hesitate to translate those forms into wood. In the first tough struggle for survival, wood sticks daubed with clay served for chimneys (8). When Georgian classic details were imported, they were "freely modified by the general employment of wood" (9). To the wooden column, mantel, and doorway, was added, in the Lee Mansion at Marblehead and the Vernon House at Newport, wooden sheathing, cut and fitted to resemble rusticated masonry. At Kittery Point, the Lady

-
- (4) Cf. R. Clipston Sturgis, quoted in Notes and Comments, *Architectural Record*, XXI, (June, 1907) p. 481, said that the discouraging phase of American architecture was its "individualistic character...the natural outcome of our form of popular government," but F.R. Vogel in *Das Amerikanische Haus* (Berlin, 1910), I, p. 285, expresses an opposite view, "Das Haus des Amerikaners wird somit zum Sinnbild seiner persönlichen Freiheit, deren Grundlage eine hohe Kultur und eine freiheitliche Staatsentwicklung sind."
- (5) The English colonists did not build log cabins. Cf. Vogel, op. cit., I, p. 18. "Fachwerkhäuser konnten in kürzerer Zeit und ebenso warm und witterungsbeständig wie Massivbauten hergestellt werden."
- (6) In the facades of cast-iron buildings of the late 1840's, James Bogardus substituted iron columns for masonry piers, achieving an iron framework with large glass windows between.
- (7) This feeling for timber framing later led Americans to exploit iron in the same way. Iron and timber have similar properties, and both differ radically from stone.
- (8) Edith L. Allen, *American Housing* (Peoria, 1930), pp. 35-36.
- (9) Hamlin, op. cit., p. 406

Pepperell House has quoins and cornice details in wood (10).

The nineteenth century saw further steps in this direction. Throughout the expanding nation, houses fashioned in wood incorporated the codified classical details of Asher Benjamin and other subsequent building guides (11). Tocqueville noted the results of this influence when he visited New York in 1831:

"I was surprised to perceive along the shore, at some distance from the city, a considerable number of little palaces of white marble, several of which were built after the models of ancient architecture. When I went next day to inspect more closely the buildings (sic) which had particularly attracted my notice, I found that its walls were of white-washed brick and its columns of painted wood. All the edifices that I had admired the night before were of the same kind." (12)

In the Civil War decade, one of these guides, referring to a castellated monstrosity with masonry details and Mansard roof, carries this wood complex to an extreme: "This design, if executed with walls of brick, would look equally as well as if constructed wholly of wood," (13) but in the humbler reaches of the building art, beyond this "polite" masonry architecture, wood remained supreme and spoke frankly for itself.

The plane wall, presupposed by framed construction, resulted from emphasis on the organic design of the entire structure rather than on the facade alone. This lent a freer plan as can be seen from the seventeenth century House of Seven Gables down to a Prairie House by Frank Lloyd Wright. The flexibility of wooden forms facilitated additions to a house. By contrast, the inflexible shell of a European masonry house was customarily built overlarge so that future expansion could be accommodated within it. The great difference between these two concepts is still evident. The British still cling to symmetry (14); the Americans to utility:

"The artlessness of the planning, which is arranged to form the maximum of convenience rather than to conform to any traditional type, has been an element of great artistic success." (15)

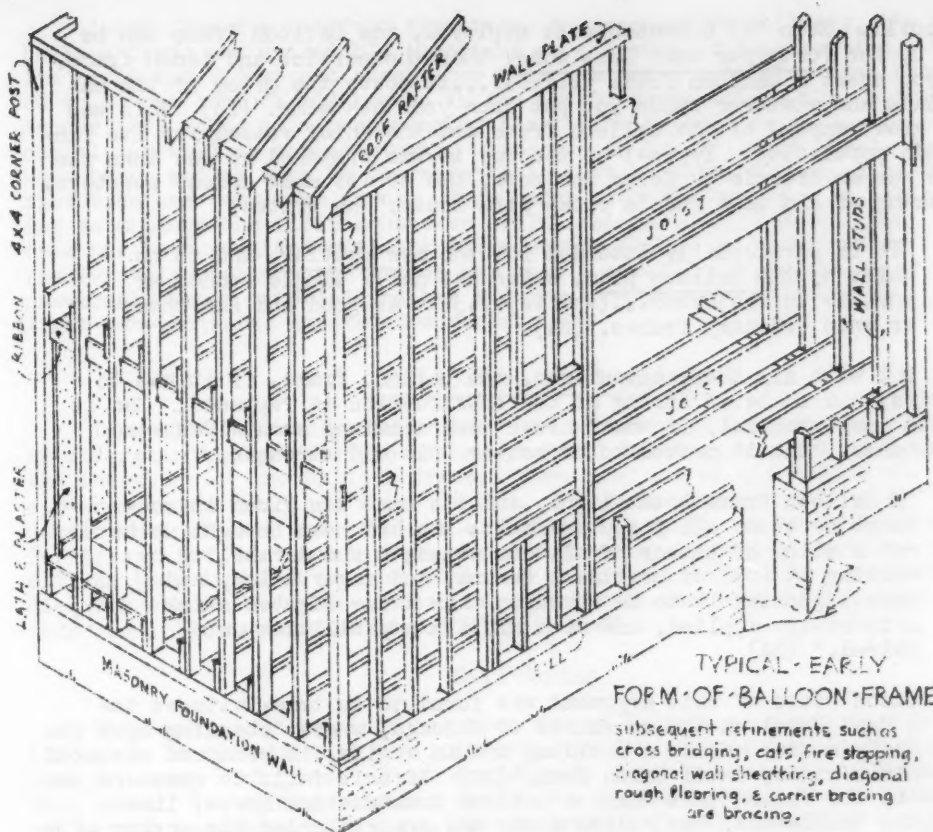
-
- (10) These and others of the period are illustrated in Talbot F. Hamlin, American Spirit in Architecture (Pageant of America, v. 13), (New Haven, 1926).
- (11) Asher Benjamin, The Country Builder's Assistant (Boston, 1798); for a list of building guides, See Thomas E. Tallmadge, Architecture in Old Chicago (Chicago, 1941), p. 34 n.
- (12) Alexis de Tocqueville, Democracy in America (4th Amer. ed.; New York, 1841), II, p. 53.
- (13) M. F. Cummings and C. C. Miller, Modern American Architecture (Toledo, 1868) pl. 24-25.
- (14) Percy L. Marks, in his The Principles of Planning (2d ed.; London, 1905) typifies the English outlook, calling for privacy, seclusion, aspect, roominess, but most of all, symmetry, which adds up to a house totally different from the American type.
- (15) A.D.F. Hamlin, op. cit., p. 420.

Thus American architecture through its emphasis on structural development has from the earliest times pointed to the necessity of a new aesthetics. Dearth of skilled craftsmen created a latent demand for new and simpler methods of construction such as the log cabin (16) and later, when the situation became truly acute, the balloon frame, itself. "That necessity, which must do without the aid of the mechanic or the knowledge of his skill, has developed a principle in construction that has sufficient merit to warrant its use by all who wish to erect in a cheap and substantial manner any class of wooden buildings." (17) Wood technique, born of necessity and conditioned by labor shortage, has found in America its highest expression and has become a truly popular movement. Long schooled in framed construction, Americans have evolved a national architectural style characterized by simplicity and freedom. With this background in mind, we can now turn to the balloon frame as an early crystallization of these vital principles--principles so important for the architecture of today and tomorrow.

Characteristics of the Balloon Frame

Technically the balloon frame is but one of several systems of wood framed construction (18). "The principle of the balloon frame involves the substitution of thin plates and studs--running the entire height of the building and held together only by nails--for the ancient and expensive method of construction with mortised and tenoned joints." (19) In practice this means that the slender vertical wall studs are set on end and spaced, say, sixteen inches, center to center. At their base, the studs are spiked to the horizontal sill, while on top a horizontal plate is spiked to them. In two story buildings, a horizontal ribbon (ribband) is nailed against the studs (20) at the proper height to receive the second floor joists. For support, these joists are spiked securely to the studs, resting lightly on the ribbon, the function of which is to align the joists and brace the assembly laterally. The roof rafters, commonly spaced farther apart than the studs, are nailed to the wall plate. Thus is formed a simple cage which the builder can surface within and without with any desired material. For the exterior, light boards or clapboards are most commonly used.

-
- (16) Supposedly introduced by Swedish colonists in Delaware, but not extensively used until the great immigrations of the mid-eighteenth century.
 - (17) G.E. Woodward, Woodward's Country Homes (New York, 1869), p. 151.
 - (18) Three principal systems are recognized today: (a) Balloon; (b) Platform, where each story is framed separately; (c) Braced, which employs diagonal braces notched into the exterior faces of the studs. This system is much closer to eighteenth century methods, being "much heavier than other methods (i.e., the balloon and platform)...but is lighter than in Colonial times." Federal Board for Vocational Education, Light Frame House Construction, Bulletin #145 (Washington, D.C., Gov. Print. Office, 1930) p. 6-8.
 - (19) Giedion, Space, Time and Architecture, p. 269.
 - (20) The studs are usually notched to receive the ribbon so that its interior face is flush with the face of the studs. This facilitates the application of the interior wall material.



The significance of the invention of the balloon frame lies in the enormous advantages which industrialization of frame construction entailed. In the first place, the frame took on new lightness, not only from the simplicity of the balloon principle, but from the very nature of the materials as well. This lent new elegance and grace to wood construction, in contrast to which older and heavier types seemed clumsy. Not only was it lighter, but it looked lighter, and consequently conservative contemporary builders christened it in scorn with the name it has ever since borne with pride.

Along with lightness and simplicity, came quickness and ease of erection. It meant that "a man and boy can now attain the same results, with ease, that twenty men could on an old-fashioned frame." (21) Some early Chicago houses were occupied within a week after they had been commissioned (22). The substitution of hammer and nail for the carpenter's kit required for mortising, meant that skilled mechanics were no longer needed for small construction jobs. The carpenter-architect of colonial economy had become the carpenter-owner of the prairie west. "Every man his own architect" was the watchword of the new era.

A result of this new-found lightness with its easy, speedy construction was that, above all else, the balloon frame house was cheap

(21) Woodward, op. cit., p. 155.

(22) Bessie L. Pierce, A History of Chicago (New York, 1937) I, p. 50.

to build. Even "if a mechanic is employed, the Balloon Frame can be put up for forty per cent less money than the mortice and tenon frame. If you erect a balloon frame yourself...it costs the price of the materials and whatever value you put upon your own time." (23) This was the great appeal of the balloon frame and the chief reason for its fantastic popularity. Typical of the way it was preached up and down the land was an article by Solon Robinson, one of its most ardent boosters. Speaking of his plan for "a cheap farm house," he writes:

"It is particularly intended for the new settler, and to be built on the balloon plan, which has not a single tennon or mortice in the frame... (and is)...just as good and far cheaper than ordinary frames." (24)

But with all these advantages, the balloon frame, if it was to survive, had to be as strong as the construction it replaced. Had it proved unsubstantial, it would never have attained such widespread acceptance. But it proved to be better knit and stronger:

"A Balloon Frame looks light, and its name was given in contempt by those old fogey mechanics who had been brought up to rob a stick of timber of all its strength and durability by cutting it full of mortices, tenons, and augur holes, and then supposing it to be stronger than a far lighter stick differently applied, and with all its capabilities unimpaired." (25)

The common sense of this argument was found to be true; witness the Bull's Head Hotel on the outskirts of Chicago, where "standing upon the open prairie with hardly a building within a mile, it remained unshaken by prairie winds, until taken down." (26) If this fails to reassure, we may cite the record that "many a 'balloon construction' house, like a gigantic tumbleweed, has rolled along the prairie under the urging of a tornado without serious injury to the house." (27) This strength, inherent in the principle of the frame, made practical another of its interesting qualities, the replacement of worn parts. That "the whole building could be renewed stick by stick" (28) is significant as an adaptation of the new principle of standardization of parts. Moreover, that such a house could be taken down and rebuilt was equally important. Lumber from a dismantled small house could be piled in a wagon easily and cleanly, and no doubt many a dwelling accompanied the westward trek of its pioneer owner.

(23) Woodward, op. cit., p. 164.

(24) Solon Robinson, "A Cheap Farm House," American Agriculture, VI, (July, 1847), pp. 216-218. This article was written on Christmas day, 1845, according to H.A. Kellar, ed., Solon Robinson, Pioneer and Agriculturist (Indianapolis, 1936).

(25) Woodward, op. cit., p. 158.

(26) Industrial Chicago (Chicago, 1891-96), I, p. 83, taken without quotes from Van Osdel, as quoted in A.T. Andreas, History of Chicago from the Earliest Period to the Present Time (Chicago, 1884-86), I, p. 504.

(27) Tallmadge, Architecture in Old Chicago, p. 37.

(28) Woodward, op. cit., p. 166.

Apart from its manifold advantages to prospective builders, the balloon frame was undeniably important as a system of construction. Its rapid and widespread acceptance (one authority estimates that from 60 to 80 per cent of all houses in the United States are built in this manner (29) makes it a phenomena of first-rate importance in American social, as well as architectural, history. An invention it surely must have been, and as such it is regrettable that no explicit record of its inception has come down to us. True, most authorities agree in assigning to Chicago the first houses so built, and one George Washington Snow has been credited with its introduction (30). In an effort to resolve this problem, the writer has made a careful reexamination of previously known material and has had the good fortune to bring to light some hitherto uncited documents.

Contributory Developments

It would seem wise to approach this controversy with as thorough an understanding as possible of the prenatal developments that led to the invention of the balloon frame. Then only can we appreciate why it appeared when it did and where it did. For this we must trace the development of nail and sawn-lumber industries up to the early 1830's. For this, also, we must investigate contemporary Chicago to realize conditions that demanded houses quick and cheap to build. There we must discover events that led--indeed, almost forced--someone to hit upon this revolutionary method of building in wood.

Nail-Making

Nail-making by machines has been termed "purely an American art." (31) It is certain that the industrialization of this branch of the iron industry took place almost exclusively on this side of the Atlantic. Here, during the colonial period, as in England and the Continent, nails were handmade. But here, due to several factors peculiar to the colonies, pressure to develop the industry was stronger and appeared earlier than in Europe. In America, "where wood, especially in the early times of the settlement of the country, was chiefly used as the material for house building," (32) there had always been an incentive to speed up and cheapen the production of nails. By laws regulating colonial manufacturing, British mercantile policy had sought to curb secondary manufactures, permitting the existence of primary industries only. Lord North supposedly expressed the opinion that the colonies should not be allowed to make a single nail for their own use, but, whether he said it or not was immaterial, for colonists felt the attitude was prevalent in England and struggled the harder to surmount it.

Even during the period of home manufactures, pioneer ingenuity had developed a minor sort of mass production. In Congress in 1789 Fisher

(29) Giedion, op. cit., p. 268.

(30) *ibid.*, p. 275.

(31) Albert S. Bolles, Industrial History of the United States (Norwich, 1879), p. 218.

(32) Horace Greeley, and others, Great Industries of the United States (Hartford, 1872) p. 1072. Except where otherwise noted, material on the industrialization of nail-making used in this section is from this article, pp. 1073 ff.

Ames noted the enormous growth of the industry at the end of the colonial period due to a barter system under which farmers of the back country "take the rod iron of the merchant and return him the nails," receiving credit at the store as payment. "The manufacture is prodigiously great," he stated in opposition to the proposed duty of a penny a pound on imported nails. By 1791 Hamilton could announce that we were supplying most of the local market and could easily step up production to meet all our own needs. The voluntary embargo placed on imports after the Revolution pointed a real need for expansion, to meet which Yankee ingenuity and inventiveness showed its stuff.

In 1776 Jeremiah Wilkinson of Cumberland, R.I., cut tacks from sheet iron and headed them in a vise. Although cut by hand shears, the method formed the basis for one type of future machine. In 1786 Ezekiel Reed of Bridgewater developed a machine to cut and head tacks and nails. Later improvements gave him a reputed production in 1815 of over 150,000,000 tacks. In 1790 Thomas Clifford introduced a new method in which "he used two iron rollers, faced with steel, into which were sunk impressions of the shape of the nails to be made.... so that a bar of iron placed between the rollers was squeezed into a line of nails." But the finished product was still dear.

In the same year, however, Jacob Perkins of Newburyport invented a machine to cut and head nails, which, first used at Amesbury, had a reputed output of 10,000 nails per day. During the same period machines by David Fulsom, Samuel Briggs and son, Thomas Perkins, and others received patents or similar recognition (33). By 1807 Jesse Reed, son of the above mentioned Ezekiel, patented a machine that remained the stock nail-maker for many years, and in which making and heading were compressed into one operation to produce 60,000 per day. This, with the Blanchard machine, invented in 1817 by Samuel Rogers and Thomas Blanchard, immediately became standard, and together brought a flood of nails that greatly reduced prices.

The colonial hand-wrought nail had commanded a price that made it seem a work of art. In New Amsterdam of 1637 a pound of one hundred nails cost twenty cents (34), and throughout the rest of the colonial period twenty to twenty-five cents was a standard price. But with the introduction of machines, this luxury commodity became democratized. "In 1828 production was so brisk that the price was reduced to eight cents a pound.... In 1833 the duty on nails was five cents a pound; but the rapidity of manufacture here had brought prices down to five cents a pound... and in 1842 the price was two cents below the duty." (35) "The nail has replaced the mortise and tenon, and economy of material, as well as economy of force, is the end we now seek to attain in our building, as in the business of life." (36)

Lumber

In lumber production, too, the colonists instituted a similar development. From the time of the very earliest settlements, Americans,

(33) Bolles (op. cit., p. 218) says 23 such machines were patented by 1800, and that by 1878 the total number of patents had reached 300.

(34) Greeley, op. cit., p. 38.

(35) Bolles, op. cit., p. 220.

(36) Greeley, op. cit., p. 1070.

especially in New England, lived close to forests. Wood played a large part in their lives. The first cargo from Plymouth colony was largely clapboards (37). The date of the first American sawmill is disputed, but it is not surprising that the colonists early found a way to replace ax, adze, and sawpit. Tradition gives New England a sawmill in 1633 (38), but Bolles finds no evidence to support it. According to him, the earliest certain New England mill was set up in 1635 on the Salmon-Falls River near Portsmouth, N.H. (39), but he agrees that wind-driven sawmills were in operation in Dutch Manhattan by 1633 (40). These first American sawmills antedated the earliest successful British mill by 134 years (41). In the beginning, American mills were confined to the seaboard, at the falls of coastal rivers, but gradually they penetrated the interior, following the advancing frontier and the receding forests.

With the opening of the trans-Allegheny west after the Revolution, water-driven mills accompanied the pioneers. In 1789 New Englanders built a sawmill on Wolf Creek, sixteen miles from the Marietta settlement in Ohio (42), and this was but the first of a constantly increasing stream.

"The fact that at Canton (Mass.) alone from a hundred and fifty to two hundred saw-mills were manufactured annually about 1790 is significant of the development of the lumber business through this important instrumentality all over the country."
(43)

Likewise uncertain is the first steam-driven saw, but usually the credit is given to General Bentham who patented one in 1793 (44). The important point is that its rapid spread at the end of the eighteenth century and in the early decades of the nineteenth speeded up lumber output tremendously. The nation-wide network of water-mills was waiting for rapid conversion to steam. Few figures detail this spread (45), but by 1832 the steam saw had come to Chicago, and probably some were also operating in the great forests of Michigan and Canada. In addition to increasing production, the new steam-mills tended to standardize the smaller sizes of lumber, for engines were more easily hitched to gang saws and it was good business to get every last bit of salable lumber from the white pine logs.

(37) *ibid.*, p. 34.

(38) *ibid.*, p. 34

(39) Bolles, *op. cit.*, p. 499

(40) *ibid.*, p. 499. Editor's note: Dutch colonial sawmills employed multiple-gang saws and thus their production greatly exceeded the single or double gang saws used in New England. Lewis Mumford, in *Technics and Civilization* (New York, 1934) p. 114, cites an Augsburg water-driven sawmill of 1322, and Agostino Ramelli, in his *Le diverse et artificiose machine* (Paris, 1588), illustrates a single blade water-powered logging mill and a triple-gang mill for sawing stone.

(41) *Industrial Chicago*, II, p. 353.

(42) Bolles, *op. cit.*, p. 500.

(43) *ibid.*, p. 500-1.

(44) Greeley, *op. cit.*, p. 370.

(45) Such works as J.E. Denebaugh, *History of the Lumber Industry of America* (Chicago, 1906-7) deal primarily with the East.

In Chicago of the early '30's, these developments began to affect construction methods for the first time. Two local mills appear (46). One steam-driven mill, built in 1832 as just mentioned, was owned by Capt. Bemsley Huntoon who for some five years sawed local timber into crude green boards suitable for dock planking and similar rough work. The other, located about fourteen miles up the North Branch of the Chicago River, ran by water power. Its owner, John Miller, turned out much the same type of product (47). The local lumbering industry could hardly warrant that designation.

With the importation of lumber in the spring of 1833, Chicago commerce entered a new era. Then it was that David Carver, usually recognized as founder of Chicago lumbering, began regular trips to St. Joseph, Mich., in the schooner owned and named for him (48). The journal of a Ft. Dearborn soldier reports that in April and May, 1833, three boatloads of lumber were ferried into Chicago by lighter while the ships, Napoleon, Austerlitz, and Chicago Packet, lay offshore (49). Later in the summer, boats were able to come into the river mouth, and begin the practice, followed until 1839, of unloading directly on the bank into an improvised lumber yard where customers sorted out the planks they wanted (50). In this latter year, when the city began to be a lumber distributing center for the mid-west, George Snow opened Chicago's first actual yard (51).

Throughout this period demand exceeded supply. In 1833 lumber sold for about sixty dollars per thousand, and one contemporary reports that only five or six thousand feet were on hand at any one time. By the summer of 1834 he states that supplies had increased greatly and that prices had gone down. If his memory is to be trusted, most of the wood was from Canada (52); in other words, Michigan forests had yet to be fully tapped. Although the lumber business was pronounced "good," two builders had just hauled wood from Plainfield, forty miles away, because none was to be had in Chicago (53).

(46) Andreas, History of Chicago, I, p. 566.

(47) Chicago Historical Society, MS Letter: James A. McCall to Simpson McCall, October 9, 1834. The writer, an employee of Miller in a tanning business, says, "he (Miller) thinks he can do better with a sawmill he has bought two lots of land about 12 miles from Chicago and is building a mill on the north branch of the Chicago river." (This and later citations from the Society's collections appear here through the generous permission of its director, L. Hubbard Shattuck).

(48) Andreas, op. cit., I, p. 554.

(49) Chicago Historical Society: Frederick Myers, Journal Kept at Fort Dearborn, 1832-1834, transcript; entries: April 8, 1833, the Napoleon from St. Joseph; April 26, the Austerlitz from Detroit; May 24, the Chicago Packet from St. Joseph.

(50) Industrial Chicago, II, p. 356

(51) ibid., p. 356.

(52) Charles Cleaver, Early Chicago Reminiscences (Fergus Historical Series #19), (Chicago, 1882), pp. 39-40.

(53) McCall to McCall, op. cit. The two men were P.F.W. Peck (Elias Colbert, Chicago (Chicago, 1868), p. 6) and Asahel Pierce (Andreas, op. cit., I, p. 566)

In November, 1835, in the first issue of the Chicago American, adjoining advertisements proclaim that J. H. Kinzie has for sale "100,000 feet best kind of lumber," while J. Rockwell, cabinet maker, says, "a few thousand feet of seasoned lumber of different kinds wanted immediately, for which cash will be paid on delivery." (54) Though the lumber trade expanded fairly rapidly, demand kept ahead of supply.

But despite chronic shortages, business always seemed to be rushing. In 1837, when Charles Cleaver found lumber so scarce that, in order to build, he bought land to get its stand of timber, prices nevertheless were down to eighteen and twenty dollars a thousand (55). By 1840 it had declined still further to fourteen dollars. An interesting comparison with contemporary St. Louis prices explains to some extent why Chicago, and not some other town, happened to be the birthplace of the balloon frame. At the same time that Chicago consumers were paying fourteen dollars, St. Louis citizens paid forty! (56) In other words, Chicago's strategic location, linked by water to the new lumber camps of Michigan and Wisconsin, made her for many years the foremost midwestern lumber center. This preeminence bore architectural fruit in the balloon frame. Certainly a vast amount of lumber was being handled in and through Chicago when the balloon frame came into use, and any shortage of supply must be interpreted as the result of booming construction.

Chicago Land Speculation

At the moment when nail and lumber production reached the stage of industrialization at which they could be exploited structurally, Chicago found itself most needful of immediate, plentiful, and cheap housing. Here for the first time the land speculator appears as an influence of no mean proportions for American architectural development. That Chicago, rather than some other contemporary town, was the birthplace of the balloon frame might be credited to chance or to cheap lumber, but the association of its invention with that particular frontier was not fortuitous. Let us consider the local background of the invention, not as peculiarly Chicagoan, but as typical of a certain stage in our westward growth that demanded a new mode of wood construction suited to its mobility, simplicity, and standard of living. Chicago in 1833, like most western settlements in their infancy, was a boom town. It was not only a growing commercial center, but an important center of land sales as well. Congress had already paved the way for speculation by granting, in 1826-7, sections along the proposed Illinois and Michigan Canal, part of which ran through Chicago. By 1830, the settlement of forty to fifty people paid for a town survey by selling town lots at ridiculously low prices. Speculators thrived with the successful termination of the Black Hawk War in 1832, which forced cession to the Federal Government of all Sac and Fox lands east of the Mississippi. The treaty of September 15, 1832, secured Winnebago land south and east of the Wisconsin and Fox rivers. In irresistible and ever increasing numbers, the unruly and triumphant whites immediately overran the whole area, including the yet unceded territories of the Pottawatomies. In

(54) Chicago American, vol. I, no. 1, June 8, 1835.

(55) Cleaver, op. cit., p. 40.

(56) Joseph T. Balestier, The Annals of Chicago (Fergus Historical Series #1), (Chicago, 1876). "The lumber trade is already very considerable...." (p. 38, note C).

September, 1833, in a Grand Council at Chicago, the lone Pottawatomies capitulated to the inevitable (57), moved west, and left the whites in complete possession. Chicago became the mart in which these new north-western lands were sold, holding virtual monopoly during the middle '30's, and often vending them in the larger eastern cities (58). To it and through it streamed a steadily increasing flow of settlers who left their mark upon it and its architecture. Even the Specie Circular of 1836 and the resulting Panic of 1837 interrupted that flood but momentarily (59).

Chicagoans, therefore, came to possess surplus land of little immediate use except for investment. By October, 1833, school lots were added to canal and town lots already in private hands, but even before this speculators had moved in (60). By 1834 "water lots along the river were bringing as much as \$3,500. Lots on Lake Street, then beyond the business area, purchased for \$50. in 1830, sold for \$250." (61) By 1835 William E. Ogden could conduct a sale and have the result "a surprise to him, for the sales amounted to more than a Hundred thousand Dollars, and included about one-third of the property" of 182 acres (62). About this time Gurdon S. Hubbard sold to a New Yorker for \$80,000. land that had cost him but \$2,500. When news of this transaction reached Chicago, prices soared again (63). Two lots, bought in June, 1835, for \$1,300. and \$5,000. respectively, brought \$1,950. and \$10,000. by August (64), and so it went. One piece of land had "risen in value at the rate of one hundred per cent per DAY on the original cost ever since (1830), embracing a period of five years and a half." (65) By 1836 when the great canal sales amassed in the first five days \$1,041,344. for 186 lots, the craze was at its peak (66). "The streets were crowded with land speculators, hurrying from one sale to another...; and it seemed as if some prevalent mania infected the whole people.... As the gentlemen of our party walked the streets, store-keepers hailed them from their doors with offers of farms and all manner of land-lots, advising them to speculate before the price of land rose higher." (67) Nor did the falling market of 1837 bring complete ruin to the bubble, in spite of extensive financial damage. The

-
- (57) For descriptions of Chicago during the Council by Charles Latrobe and Patrick Shireff, see Bessie L. Pierce, ed., As Others See Chicago (Chicago, 1933).
 - (58) Pierce, History, I, p. 58.
 - (59) "The population of Chicago in this period...was: 1829, 30; 1830, 40-50; 1831, 60; 1832, 150; 1833, 350; 1834, 1800; 1835, 3265; 1836, 3820; 1837, 4170; 1838, 4000; 1839, 4200; 1840, 4470;..." Pierce, History, I, p. 44m.
 - (60) "Speculators have already bought up, at high prices, all the building ground in the neighborhood." Shireff, in Pierce, As Others See Chicago, p. 66.
 - (61) Pierce, History, I, p. 58.
 - (62) Charles Butler, in Pierce, As Others See Chicago, p. 52
 - (63) Pierce, History, I, p. 58
 - (64) Andreas, op. cit., I, p. 138.
 - (65) Chicago American, April 23, 1836.
 - (66) Pierce, History, I, p. 65.
 - (67) Harriet Martineau, in Pierce, As Others See Chicago, p. 83.

same Gurdon Hubbard profited \$80,000 on two 80 x 100 foot canal lots bought in 1829 for \$33.33 apiece, despite the fact that part was sold after the Panic (68).

As gateway and land mart, Chicago overflowed with migrants. "In many instances families were living in their covered wagons while arrangements were being made for putting up shelter for them," notes an observer in 1833 (69), and to another "there seemed to be a general fair at Chicago." (70) Shireff had to get his night's rest on an extra pallet in the corner of a ten foot square room already accommodating two beds. Some less fortunate travelers in August, 1833 "could only find a sleeping place on the floor, which was covered with weary men," (71) and Harriet Martineau, forewarned that during sales inns were full, found "it was even so. The very sight of them was intolerable; and there was not room for our party among them all." (72) Though a certain exaggeration resulted from the habit of calling a one-week visitor a resident, the population rose by leaps and bounds (73). Not only speculators, but tradesmen flocked to cash in on spending habits fostered by lush times and loose money. "Even the barbers who, since the days of Abraham, had shaved for sixpence, discovered that they had been working at half price." (74)

Old residents--those with at least three months in town (75)--saw the arrival of increasing numbers of transients. Unable to find accommodations in the crowded town, many repaired to vast schooner camps.

"When I add that the population has quintupled last summer, and that but a few mechanics have come in with the prodigious increase of residents, you can readily imagine that the influx of strangers far exceeds the means of accommodation; while scarcely a house in the place, however comfortable looking outside, contains more than two or three finished rooms." (76)

One booster encouraged a member of his family to emigrate to Chicago by relating that "wages are high and workmen scarce," and that "he can get good wages here from one dollar to three of a day, there is a good many carpenters here now but there is work enuff for as many more." (77)

Had not the invention of the balloon frame come almost immediately after this first substantial increase in population, one wonders whether "as many more" mechanics could have met the demand for buildings by using traditional methods. The old pegged system of heavy framed construction took time to erect, and cost an estimated 66% more to carry out (78). In mushrooming communities, time is at a distinct premium and, for speculator and transient alike, low cost is essential. In this

-
- (68) Andreas, op. cit., I, p. 137
(69) Butler, in Pierce, As Others See Chicago, p. 43
(70) Shireff, in Pierce, op. cit., p. 67
(71) Butler, in Pierce, op. cit., p. 44
(72) Martineau, in Pierce, op. cit., p. 83
(73) Andreas, op. cit., I, p. 122. For population growth, see note 59.
(74) Balestier, op. cit., p. 27
(75) Charles Ferno Hoffmann, in Pierce, op. cit., p. 74
(76) *ibid.*, p. 74
(77) McCall to McCall, op. cit.
(78) Woodward's "forty per cent less" reversed.

rampant Chicago, most new buildings had to be essentially shacks; anything to save time and money was acceptable; it would pay to experiment with lighter structural systems.

So in the spring and summer of 1833 convergence of supply and demand at Chicago led to the balloon frame. The flood-tide of newcomers needed shelter whether they stayed or not. The first fragrant cargoes of freshly sawn white pine arrived from St. Joseph across Lake Michigan. And with the advertisement, "Cut Nails from 3d to 20d of superior quality, for sale by the keg or less quantity by John Wright" (79), the setting is complete.

Birth of the Balloon Frame.

It is strange indeed that so little is known about the circumstances surrounding the invention of the balloon frame, for although the new construction may not have been thought of as a truly great discovery, it was considered revolutionary at the time, and was most enthusiastically received. All contemporary accounts of Chicago mention the new balloon houses, or the new light construction, or the amazing speed with which the shanties sprang up, but none names the inventor of the first balloon framed building. Until recently no serious effort had been made to discover him.

In 1872 it was stated that "when it was first used is not known with any definiteness, but it has within the last fifty years entirely replaced the old method of construction." (80) Even G.E. Woodward, who fully realized its importance, wrote in 1869 that "the early history of the Balloon Frame is somewhat obscure, there being no well authenticated statements of its origin... The Balloon Frame belongs to no one person; nobody claims it as an invention." (81) That the balloon frame was a "folk development" originating somewhere in the prairie country was pretty generally believed until Siegfried Giedion, in his article in New Directions, 1929, sought to attribute the honor to George Washington Snow of Chicago (82). Thus, Giedion restored the lowly balloon frame to academic architectural circles, and appeared to have solved the problem of its birth for good.

Giedion names George Washington Snow as the inventor; but the documentary evidence he cites seems to reduce to a statement by J.M. Van Osdel who arrived in 1837 to become Chicago's first architect (83). Van Osdel, in a series of reminiscences on Chicago architecture, is quoted by Andreas as saying: "Mr. Snow was the inventor of the 'balloon frame' method of constructing wooden buildings, which in this city completely superseded the old style of framing with posts, girts, beams,

(79) Chicago Democrat, vol. I, no 1, November 26, 1833.

(80) Greeley, op. cit., p. 40. Misquoted by Giedion, Space, p. 273.

(81) Woodward, op. cit., pp. 151-154.

(82) See note 3.

(83) Van Osdel was long Chicago's most prominent architect. He came to build William B. Ogden's house in 1837, and later built the Rush Medical College, Rice's Second Theater, part of the First Methodist Church (1845), and many other buildings.

and braces."(84) Giedion lists Industrial Chicago as a third authority (85), but since the latter leaned heavily on Andreas in other matters (86), and since--indeed in this instance--his wording has a familiar ring, this reference seems but a repetition of Andreas. Other complimentary histories might have been cited, such as Moses and Kirkland's self-styled popular history (87) and Miss Pierce's more recent work(88), but these also stem from Van Osdel.

Neither does Giedion quote the reminiscences of two other Chicagoans, Charles Cleaver and William Bross. In fairness to Giedion's argument, it must be acknowledged that Cleaver had arrived in Chicago in time to witness the birth of the balloon frame, and that he says that Snow "had the credit of first originating the idea."(89) Bross, although believing it a Chicago invention, makes no such claim, which shows not only that this view of its origin was not universally accepted, but also that it was perhaps not definitely established. Thus Van Osdel and Cleaver appear to be the sole documentary evidence of Snow's claim, and only the former states it on his own authority.

In addition to their value as documents, Giedion argues that Van Osdel, Andreas, and Industrial Chicago are "confirmations of the tradition in Snow's family that he invented the balloon frame,"(90) implying that this tradition is a separate authority in itself. But an examination of the small collection of transcripts given to the Chicago Historical Society by Snow's granddaughter, Mrs. George Carpenter, seems to show that the family tradition itself is based on the same sources, even adding Giedion to boot. The principal witness is, naturally and rightly, Van Osdel. The others are Andreas (who quotes Van Osdel), Moses and Kirkland, Tallmadge (who quote Van Osdel, Cleaver, and Bross), and Giedion (who quotes Van Osdel, Andreas, and Industrial Chicago). The oral family tradition, if it exists outside these sources, has not been documented in this packet.

It seems, therefore, entirely possible, if not probable, that the whole Snow theory may be traced to Van Osdel who gives us no hint of the origin of his knowledge. True, he doubtless talked with Snow or with residents who vouched for Snow's connection with the balloon frame, for, although he arrived four years too late to actually witness it, he must have known Snow for many years. His claim may be perfectly just, and it is wrong to ignore such evidence without actually disproving it; but it is nevertheless the unsupported word of a late arrival who did not set down his record until fifty years after the event and thirteen years after Snow's death.

-
- (84) J.M. Van Osdel, "The History of Chicago Architecture" Inland Architect, I, no.3, p. 36, et seq. Quoted in Andreas, op. cit., I, p. 504.
- (85) Giedion, op. cit., p. 275.
- (86) There is much quoting from others, and some actual plagiarism in the literature of this subject (cf. note 26). Where possible I have tried in such cases to give the earliest reference consulted.
- (87) John Moses and Joseph Kirkland, eds., History of Chicago, Illinois (Chicago, c. 1895).
- (88) Pierce, op. cit., see note 22.
- (89) Cleaver, op. cit.
- (90) Giedion, op. cit., p. 275.

There is at least one serious difficulty that seems irreconcilable to Snow's claim. This has to do with the actual erection of the first building to use the balloon frame. If it can be shown that some one else actually constructed it, Snow can at most have only a contributory place. Strangely enough, Giedion did not realize his inconsistency on this point. If someone else did build it and Snow continues to get credit for it, then surely Leonardo invented the airplane and Viollet-le-Duc, the skyscraper (91). It seems customary, however, to recognize as inventor the person who first carries out an idea - in other words, to honor the Wright brothers, and Jenney. Let us seek the building and its builder.

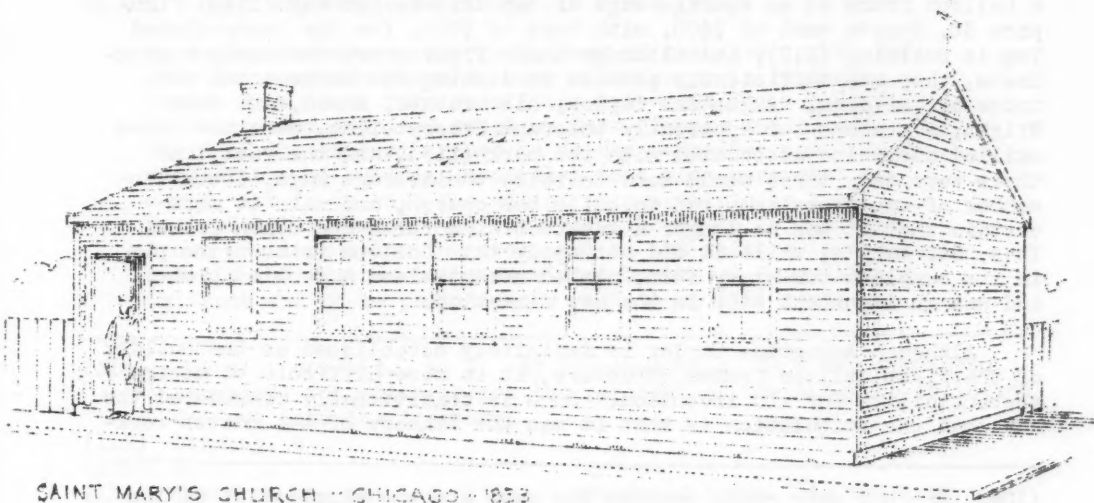
Chicago in the pre-boom period consisted of Fort Dearborn and the few log huts surrounding it. The first framed building, a store, was erected in the fall of 1832 by G. W. Dole on the southeast corner of Dearborn and Water Streets. Shortly afterwards, P.F.W. Peck started the second frame; but completion was delayed until the following May when he was able to replenish his exhausted lumber supply by hauling it from distant Plainfield (92). By that time, Philo Carpenter's framed store was finished, and John Wright had another store under way (93) where later he sold so many of the nails that spiked together the early balloon frames. The last of these heavy old-style frame buildings was the Temple Building (94) which "did not derive its name from its dedication to sacred uses, but from the fact that Dr. Temple built it and rented it to such societies, religious or otherwise, as could pay the rent. The name of the builder gave to the building itself a double sanctity that its subsequent career could not sustain." (95) It was erected sometime between Temple's arrival on July 4, 1833 and early August (96). Add to these some hundred sixty-odd old-style houses built by the vanguard of immigrants during that spring and summer (97), and the architectural background of Chicago's framed structures is complete.

This was the scene that greeted Father John M.I. St. Cyr on his arrival on May 1. Father St. Cyr had been appointed priest of Chicago by the Bishop of St. Louis on April 17, 1833, one day after presentation of a petition by Chicago's faithful. Four days after his arrival, he celebrated his first mass (98). Soon the twelve by twelve foot

-
- (91) Though Buffington claimed the "invention" of his Cloudscrapers, he admitted that he had gotten the idea from Viollet-le-Duc. Buffington, however, never built one, and three years later in 1833 W.L.B. Jenney built the first example, the Home Insurance Building, Chicago.
 - (92) Colbert, op. cit., p. 6
 - (93) Chicago Historical Society, Ms Autograph Letters, Vol. xvii: Rev. Jeremiah Porter, Address on the Earliest Religious History of Chicago....Delivered by Request of the Chicago Historical Society in 1859. Porter was a Baptist, and the first resident minister in Chicago.
 - (94) Industrial Chicago, I, p. 51. It was the first building to be turned gable end to the street.
 - (95) Andreas, op. cit., I, p. 290
 - (96) When it was mentioned as a model for another building. See p.21.
 - (97) Industrial Chicago, I, p. 51
 - (98) Andreas, op. cit., I, p. 290

log cabin which he had borrowed for services was too crowded and he set out to build a church building of his own. Because land prices were by that time relatively high, there was a mix-up in the purchase of the lot, and the church was erected on it in anticipation of the sale which never went through. Nevertheless, St. Mary's occupied the site for several years (99). As architect and builder of St. Mary's, Father St. Cyr chose Augustine Deodat Taylor (100), Hartford carpenter and builder, who had arrived in Chicago, the previous month, June, 1833.

Lumber was bought in St. Joseph to take advantage of the bargain rate of \$12. per thousand, floated to Chicago on a scow, hauled to the site by Taylor's brother, Anson, and work begun. "In July, 1833, a number of men are found erecting a church on Lake Street, near State Street, of scantlings and sidings." (101) Porter, however, in 1859 wrote that "in Aug. 1833, a frame for a chapel was erected a little distance south of Col. Beaubien's; it was enclosed and used for worship in the autumn of that year." (102) Completion dates also vary, but Father St. Cyr himself reports that he "set to work to build a church, which was completed for divine service about the middle of October, 1833." (103) At that time a hundred persons attended the dedicatory services in the chapel's rough, bare interior (104). The sum of the evidence indicates, therefore, that the little structure was begun during the summer and finished in the fall of 1833.



SAINT MARY'S CHURCH - CHICAGO - 1833

(99) Ibid, I, p. 290. It had been understood that the lot was to be evaluated according to a previous scale, because the boom had already boosted prices beyond the resources of the congregation; but even then the cost was too high; shortly after, the lot was bought for \$10,000. by the speculator, Dexter Graves. Apparently Graves had no objection to the church occupying his land, for it was not moved until the term of Father O'Meara (1837-40).

(100) There is no doubt that Taylor was the builder in charge. Andreas, op.cit., I, p. 290; Pierce, History, I, p. 225.

(101) Industrial Chicago, I, p. 51.

(102) Porter, Religious History. See note 93.

(103) Chicago Hist. Society, Ms Autograph Letters, vol. xvii: Father John M.I. St. Cyr to John Wentworth, Jan. 19, 1880. Colbert (op.cit., p. 7) claims it was not finished until the next year.

The real significance of the statements just cited lies elsewhere. Critical is the phrase, "of scantling and siding," and the mention of the "frame" which was later "enclosed." Another contemporary states that "the Catholics have a chapel going up rapidly." (105) Perhaps we attach to these words an importance beyond their authors' original intent. Far clearer, however, is the unequivocal statement that "the ancient builders prophesied its destruction in the first gale, but it withstood the winds and proved the theory of its master workman correct." (106) Not only does this indicate that the construction was considered flimsy (balloon-like perhaps?) by those who watched it rise, but this very flimsiness was due to the theory of its builder, and the implication is that the theory was so new as to be startling. As a matter of cold fact, however, it withstood a great deal more than prairie winds. During its ten year existence as a Catholic church, it was dismantled, moved, and re-erected three times (107).

There is one more point to be admitted as evidence. St. Mary's cost "about \$400." to build (108). It was thirty-six feet long and twenty-four wide, with a twelve-foot single story, covered by a simple gabled roof (109). With lumber at \$12. per thousand, rough computation puts the total cost of this material somewhere between \$75. and \$100 (110). Allowing for ferrying and hauling, and for finishing operations, the remainder of the \$300. balance would be just about enough to pay for a balloon frame at an average wage of two dollars per day (111). Compare St. Mary's cost of \$400. with that of \$900. for the heavy-framed Temple Building (112), and although these figures are obviously approximate, they are sufficiently precise to distinguish between the two modes of building. Augustine Taylor, his brother, Anson, and John Wright, a staunch but apparently tolerant Presbyterian, were the three skilled mechanics associated with the work (113), and the fact that there were only three would tend to raise the average wage, lower the number of man-hours required to build the church, and make it more certain that it was no longer a question of mortise and tenon frame. Thus, St. Mary's, while it did not apply the balloon frame principle in its complete two-story form, marked nevertheless a decided break, and was an important step in the new direction.

Although Augustine Taylor is definitely established as the builder of the first balloon framed structure, it is more difficult to assign responsibility for its invention. Snow is traditionally considered the man, but the stipulation is that it was the "theory of the master work-

-
- (104) "It had only rough benches for pews and the simplest of tables for altar and pulpit." Andreas, op.cit., I, p. 290.
 - (105) Chicago Historical Society, Ms Letter: Rev. Jeremiah Porter to Rev. Edmund O. Hovey, August 27, 1833.
 - (106) Industrial Chicago, I, p. 51
 - (107) Andreas, op. cit., I, p. 290.
 - (108) *ibid*, I, p. 290.
 - (109) Pierce, History, I, p. 225.
 - (110) This assumes one-inch sheathing and two-by-six inch framing lumber. No ceiling is included.
 - (111) McCall to McCall, op. cit.
 - (112) Andreas, op. cit., I, p. 315.
 - (113) *ibid*, p. 290.

man" in charge of actual construction. Of the two men, Taylor was much more qualified to be the inventor of a new type of wooden construction, Giedion's acceptance of Snow to the contrary notwithstanding. Compare them. Snow was primarily a surveyor, being appointed to that position in the town's hierarchy on December 4, 1833 (114). In this capacity he frequently was called upon to apply his engineering training. For example, he was ordered on March 5, 1834 "to pitch South Water Street from the U. S. Reservation to Randolph Street, on or before the first of April next." A Herculean job, truly, if taken in the literal acceptance of the order." (115) On June 11 next, he had to graduate South Water Street so that water from each cross street would flow into the river (116), and in 1849, while serving a term as Alderman, he was made the city's drainage commissioner (117). Moreover, he was, as Giedion says, something of a jack-of-all-trades, for he later owned the town's first lumber yard, and dabbled in real estate and finance(118).

But there is no record of Snow having personally erected any buildings whatsoever, and only one known instance in which Snow is connected directly with a building operation, even as a client. For the latter we have a very interesting document which, to the best of the author's knowledge, has never before been cited in this connection and which proves conclusively that he did not construct the building he paid for. It is a contract between Snow and one John Gawin for a small house to be built near the Temple Building. It reads (119):

An Agreement between George W. Snow of the first part, and John Gawin of the 2d part, both of Chicago, in Illinois. The sd Snow is to furnish all the materials for a building to be erected near one owned by Doct. Temple and the sd Gawin of the 2d part agrees to do the Carpenter and Joiner work of the sd building according to a plan hereunto annexed that is to say. The stile, in general to be like Doct. Temples, except the cornice which is to be a single crown moulding under the eaves, and on the rafters in front--columns and windows to be furnished by the sd Snow--siding in front end to be plain'd--the rest to be laid rough--

-
- (114) Colbert, op. cit., p. 7. At the same time, Snow was appointed Assessor, for which he got ten per cent of the money he collected and put into the treasury.
- (115) ibid, p. 8
- (116) ibid, p. 8
- (117) Giedion, op. cit., p. 274. I could not check this among my authorities.
- (118) ibid, p. 275. Again I have been unable to check these statements. Perhaps Giedion got them from the Carpenter family, whom he seems to have interviewed.
- (119) Chicago Historical Society, Kimberley Papers: Agreement between George W. Snow...and John Gawin, August 2, 1833. MS. (Here given in full by generous permission of the Society's director, L. Hubbard Shattuck). Since Giedion has been the only writer to deal with the subject since the Kimberley Papers were deposited with the Chicago Historical Society in 1904, and since he mentions it in neither of his works on Snow, it seems, therefore, to be fresh evidence hitherto unused. Peter Pruyne, witness to the agreement, was the partner of Dr. Edmund Kimberley in Chicago's second drug store, founded 1833.

Floors to be jointd and nailed down rough--one small window in each end of the Chamber--Pannel door in front the other two to be plain batten doors--Plain stairs to go up chamber--In consideration of the fullfillment of this contract on the part of sd Gavin the sd Snow is to pay sd Gavin the sum of fifty dollars.

In testimony whereof we have hereunto set our hands this second day of August one thousand eight hundred and thirty three.

(Signed) P. Pruyne

(Signed) G. W. Snow

(Signed) John Gavin



(Annotations on the reverse in pencil)

1833

The Temple Building--famous in Chicago's early Church-History--on Franklin St.

Snow--a very fine gentleman--He was also a Surveyor--I remember him well--Had a fine residence in the 40's--on State S.W. cor. of "Jackson" I think--perhaps Adams

One of Chicago's 1st Buildings

G(eorge). S. K.(imberley).

Although the phraseology might be more explicit, the contract seems to indicate that the balloon frame principle was not utilized. Perhaps the specification "floors to be jointd and nailed down rough" means that joists were to be tenoned into sill mortises, with the rough flooring nailed on top. If so, the extent to which the whole frame was mortised is vague, but it is logical to suppose this technique would be applied throughout, and a frame jointed in this manner could not, by very definition, be a balloon frame. In any case, the date of the agreement, August 2d, devastates Snow's claim, for, on that day St. Mary's, the first balloon framed structure, was already well under way. One might expect that Snow, if he were the inventor of a revolutionary method of construction, would stick by his new principles instead of returning immediately to old-fashioned practice (120).

(120) Editor's note: It might be argued that "floors to be jointed and nailed down rough" could be interpreted as flooring boards with tongue-and-groove joints. During the eight-

Augustine Taylor, however, was eminently qualified to initiate such an important innovation in building methods. After thorough public and private schooling in Hartford, he was apprenticed to his carpenter father there (121). At the age of seventeen, he inherited his father's business and soon afterwards began his career as a builder of churches. He arrived in Chicago in June, 1833, and by July was in charge of building St. Mary's, being selected for the job over all those already there. After this first success, he built at least six more churches and a large house on Taylor Street to which he retired in his old age. Throughout his life, he was known as a builder. Snow was not (122).

From the fact that Taylor built the first balloon structure, from the fact that his rival, Snow, is known to have been definitely associated with an old-style construction job erected after the appearance of the new system, from the fact that the various branches of Snow's claim are more than likely based on the undocumented statement of one man, and, finally, from the careers of the two men, one thing is evident: Snow cannot be given exclusive credit for the invention of the balloon frame. Rather, the mass of available evidence points to the possibility that, contrary to usual belief, it was Taylor, not Snow, who was the inventor. It is to be hoped that past injustices will now be righted, and that due credit will henceforth be given to Augustine Deodat Taylor, who probably conceived and certainly built the first balloon frame.

The Significance and Influences of the Balloon Frame.

In vastly different ways that good Father St. Cyr foresaw, St. Mary's influence was immediate and lasting. As early as August 3, 1833, a group attending the funeral of a child, now-laid in her coffin, was "interrupted by the noise of the hammer of a workman outside who was

eenth century, such boards were restricted to first-class work due to the expense of fashioning them by hand. Peter Nicholson (The New and Improved Practical Builder, London 1837, I, p. 132) recommended them. But use in low-cost construction awaited cheap production by steam-driven planes, and it is doubtful that Chicago, whose first steam-driven saw was set up in 1832 (see note 46), could have had a planing mill the following year. Certainly, Snow's microscopic labor budget could not have permitted Gawin to produce such material manually, and the restricted scale of the whole project hardly seems to warrant their use even if Snow was furnishing the materials. Hence, Snow is definitely connected with a non-balloon frame building at the very moment St. Mary's is under way, and no documentary evidence associates him with St. Mary's.

- (121) For more details of Taylor's life, see Andreas, op. cit., I, p. 145, from which these few facts were taken.
- (122) In Andreas' list of Chicago's early residents (op. cit., I, p. 132), Taylor is listed as a "builder," while Snow has no profession mentioned. In the Directory of the City of Chicago for 1839 (Fergus Historical Series #2, Chicago, 1876), Taylor is given as "carpenter and builder" (p. 33), while Snow appears (p. 31) under his company name as "lumber merchants."

engaged in putting up a shanty for some newcomers." (123) During the next month, "frame and clapboard houses were springing up daily under the active axes and hammers of the speculators, and piles of lumber announced the preparation for yet other edifices of an equally light character." (124) As we have noted already, one week was soon the accepted interval between commissioning and completion of a house. "In one week in April, 1834, seven were added....and by mid-June seventy-five new structures could be counted." (125) In all, over one hundred fifty houses were put up in the spring and summer of that year (126), and the activity of the previous autumn must have been considerable, for McCall wrote, "When I came here last fall there was only fifty frame houses in Chicago and now I counted them last Sunday and there was 600 and 28 and there is from 1 to 4 of 5 a day and about two hundred and 12 of them stores and groceries." (127) In 1835, another writes phonetically that "Thare is a grate many a Going up this somer when farmers get their Farms paid for thay will bild framed houses and barns in 2 or 3 years I think." (128) In November, Caroline Clark described the city in more facile language: "The buildings are now mostly small, and look as though they have been put up as quickly as possible, many of them are what they call here Balloon houses, that is built of boards entirely--not a stick of timber in them except for the sills." (129) Thus, during the decade, 1833-1843, Chicago became a city of balloon framed buildings; not until the middle '40's did more fire-resistant brick construction begin to predominate within the central zone. (130) Only after the Great Fire of 1871, which "showed the reprehensible character" (131) of combustible wood construction in general and of the balloon frame in particular (132), were these vulnerable systems relegated to the outskirts of the city.

The culmination of Taylor's invention was its adoption throughout the whole Prairie West. "With the opening of the West, the new methods of transportation, the use of steam, and the application of machinery to lessening the expenditure of labor, domestic architecture has partaken fully of the new spirit of the age, and solidly built cities now spring up along the lines of travel through the West almost as rapidly as through the agency of the wonder-working lamp of Alladin. With the application of machinery, the labor of house building has been greatly lessened, and the western prairies are dotted over with houses which have been shipped there all made, and the various pieces numbered, so that they could be put up complete by any one." (133) That the major impulse behind the new construction centered in Chicago is evidenced by the statement that "Chicago and other lumber markets now

(123) Butler, in Pierce, As Others See Chicago, p. 43.

(124) Latrobe, in Pierce, op. cit., p. 60.

(125) Pierce, History, I, p. 50.

(126) Andreas, op. cit., I, p. 134.

(127) McCall to McCall, op. cit.

(128) Chicago Historical Society, MS Letter: O.L. Ingraham to Jeremiah and Mahetabel Ingraham, May 4, 1835. Transcript.

(129) Chicago Historical Society, MS Letter: Caroline Clark to Mary Walker, November 1, 1835. MS.

(130) Industrial Chicago, I, p. 49.

(131) ibid, I, p. 83.

(132) For a humorous but valid estimate of the balloon frame's combustibility, see E.C. Gardner, The House that Jill Built (Springfield, 1896), p. 51-53.

(133) Greeley, Great Industries, p. 40.

send to the pioneers, all prepared for use, much of the building material needed by him." (134)

This new tradition in housing, born of the frontier West, has always typified it. Not only did it mark the application of industrialization to architectural construction, an event important for American society and for American house design, but it also crystallized several national traditions. Houses have always revealed their owners' character and station, and house-building has been called

"The most important branch of industry..., serving to indicate the advancing civilization of a nation, and the excess gained by their industry over the bare necessities of living. Particularly is this so in America where labor is not generally confined to hovels, especially in agricultural districts, in order that its earnings should be squandered upon a palace for the gratification of some ruler's or capitalist's love of vain display." (135)

In the great era of American agrarianism, the balloon frame enabled the settled American farmer to flaunt a far more grandiose home than could any of his cousins in Europe.

It also quickened American mobility, always more pronounced than in Europe. In an age of rapidly accelerating transportation facilities, the balloon frame became another symbol of the American's love of getting things done quickly. It enabled the American husbandman to build speedily and well structures that he might not have built before. It made additions to small houses easy, and thereby increased the functional complexity of the rural house plan. Abandoning the family homestead became less a crisis if the dwelling itself could be dismantled and brought along, so that both social and geographical mobility were loosened. In short, the balloon frame raised the living standard, and thus is

"the most important contribution to our domestic architecture which the spirit of economy and a scientific adaptation of means to ends have given the modern world...There is hardly a better evidence of the American Spirit, which is so prompt to adapt itself by new methods to new conditions, than the introduction of this new style of building, and it has really been the most efficient cause of the rapidity with which, in modern times, our villages and towns spring into existence. Our methods of construction, like our methods of transportation, have passed into the railroad phase of development." (136)

(134) Bolles, op. cit., p. 503.

(135) Greeley, op. cit., p. 34. "Vom kleinen Arbeiterhause bis zum breitgelagerten Landsitze des Milliardars wurde die Hausform gefunden, in der jeder nach seiner Weise und in seiner Fassung selig werden konnte, die seiner Lebenshaltung und seiner Anschauung von einem behaglichen Heim entspricht." (Vogel, op. cit., p. 284).

(136) Greeley, op. cit., pp. 40-41.

So much for the influence of the balloon frame in a social sense. There remains its import for later architectural developments. It codified our early habits of wooden construction and presaged our more recent industrialized structural systems. It marked the crossroads of our native American evolution in the building arts. There was, in all probability, no one balloon framed house that exercised on later buildings a direct influence comparable to the Maison Carree or Saarinen's Tribune Tower project, but because Americans worked constantly in its formula, which, in itself, summed up the major elements of our art, it is true to say that it produced genuine architectural descendants. St. Mary's transformed our countryside, and her children both developed and refined her characteristic elements.

The main theme of the balloon frame, as of all American architecture by and large, was simplicity, the reliance for effect on clarity, proportion, and texture. With the first extensive introduction of sawn lumber, the outline of the house acquired new crispness and lightness. The very qualities that gave the new system strength combined with economy of material--for example, the strict regularity of spacing the component members--inevitably made for effective simplicity of form. Lumber, sawn into standard lengths each multiples of two feet, promoted straightness and inherent proportion of outline. In this clarity of outline, and in its severely flat walls, imparted as much by structural principles as by new techniques of production, American love for plane surfaces reaches its ultimate conclusion. Windows in clapboard walls, always neatly cut, now show new precision. Lightness of material and structure gives the building not only more grace and elegance, but also the first indication that the wall, no longer a piled-up mass to support the roof, is rather a thin curtain to separate interior from exterior space. St. Mary's--without the later belfry--possessed an admirable gracefulness that earlier construction would never have bestowed on such a humble edifice.

These are the characteristic qualities of the balloon frame stripped bare of ornament, but it did not long remain in that happy state. For at the very moment of its inception, the Greek revival fad was at flood tide(137). Contemporaries with pretensions to taste commented scornfully on the first balloon framed structures. "Buildings in which the congregations assemble are of mean architecture,"(138) "the people could not spare the time necessary to construct good dwellings,... up to the year 1852 few of the residents (of Chicago) looked upon it (the balloon frame) as their home," (139) True, by far most such constructions were mere shacks and shanties, but, at the same time, the balloon frame became inseparably associated for a considerable period with the Greek revival (140). This mode had heretofore been largely restricted to public buildings and the expensive homes of rich easterners. The Pennsylvania colonel, who in 1821 boasted "give me six hundred mountaineers with two pounds of beans and a gallon

(137) The Greek revival flourished from 1820 to 1860 (Thomas E. Tallmadge, The Story of Architecture in America, New York, 1927, pp. 88-117)

(138) Bilestier, op. cit., p. 32.

(139) Colbert, op. cit., p. 44.

(140) Tallmadge, Chicago, P. 39.

of whiskey per day for each, and I'll lick the Turks in forty-eight hours" (141), had to await St. Mary's and the balloon frame to have an architectural outlet for his pro-Hellenism.

Once the opportunity was at hand, however, frontiersmen lost no time in taking advantage of it. While in the humble little house built by Gawin for George Snow "the stile in general is to be like Doct. Temples" (142), Snow added two columns and, one feels sure, a pediment. Little balloon boxes prefaced by porticoes became almost universal in the middle-west. "The cornice, however, was the grand stroke of the artist, and he made it heavy enough so that it would be seen." (143) Yet the Greek revival--balloon frame combination, as long as it held sway,-- was the simplest architectural tradition of its day. Such Classical detail as was stuck on was after all merely ornament. "The builders in brick and stone adhered generally to the Italian or French style in the simplest forms, while the carpenter builders adhered to the Snow-Temple ideals of 1833." (144) And, regardless of Tocqueville's amazement, there was a certain fitness to the Greek temple in America, for was not the first Greek temple made of wood, and was not its peculiar form conditioned by this material? Thus, the balloon frame democratized the Greek revival, and together they maintained their struggle for traditional simplicity against the rising current of the elaborate and bizarre.

Seeds of future extravagancies were sprouting more than a decade before the new Gilded Age officially opened in 1860 (145). The popularity of octagonal dwellings was indicative of the trend, but interests us here only because they illustrate the consistent manner in which Americans experimented freely in the planning of their houses (146). But soon the ornamental fireworks exploded. In Chicago

"contractors, as well as architects, confessed that wooden architecture had reached the limit of perfection in that year when the sun of the Whig party went down forever. Before the year 1854 was closed, a new timber structure pointed to the errors of their conclusions. The Myrick Castle, with its tower and its cupola, its loggia and its verandah shed a new light on the possibilities of the balloon frame.... A Doric portico... a Roman balcony... the tower with its Norman windows, complete the ensemble. Such a building was injurious in its influence on the times. Citizens of that day could not, of course, see the ridiculous side of a wooden building attached to a keep or campanile with embattled parapet, and hence its

-
- (141) Recorded by Mrs. Trollope, and quoted in Tallmadge, *America*, p. 89.
(142) The Temple Building, as illustrated in Andreas (op. cit., I. p. 316), was a simple, two-story, heavy framed building with little or no ornamentation.
(143) *Industrial Chicago*, p. 52.
(144) *ibid.*, p. 54.
(145) Tallmadge (*Chicago*, p. xii) christened the era from 1860 to 1880 the "Parvenue Period."
(146) O.S. Fowler (*A Home for All*, New York, 1854), a phrenologist, disliked unsightly additions to frame houses, and claimed his octagonal dwelling had more room and was "several hundred per cent cheaper, than any other." (Introduction)

novelty and size, if not its picturesqueness, won their approval and led to the construction of similar houses." (147)

Books of "modern architecture" published between the Civil War to the end of the century (148) reveal furious confessions of conglomerated decorations that practically conceal essential structural forms. Yet due to easy manipulation and to its propensities for structural freedom, the balloon frame actually facilitated these vagaries of taste. It is only human to exploit any medium to the limit, and balloon construction was too facile and pliant to go untried. Its very strength, derived from the rigidity of its interlocking members, promoted its use for fantastic shapes perched in the most precarious places. This "Carpenter Gothic" was a period of exploitation of the balloon frame as construction pure and simple.

Emerging from this decorative digression, the balloon frame has since regained its original aesthetic norm. Now a mature and respected structural medium, its supremacy in the field of low-cost housing is threatened only by experiments in prefabrication. Once the nineteenth century's solution to this vexing problem, the rise in labor and lumber costs since the Civil War have made it now almost a luxury. Its twentieth century counterpart seems destined to be the principle of prefabrication.

The nineteenth century saw another collateral descendant of the unsophisticated balloon frame. As in lumbering and nail-making, increased production brought reduced prices in other building material industries, notably iron, brick, and tile. (149) From Watt's iron framed English factories, through Bogardus in this country, architects gradually approached the masonry-fireproofed, metal-skeletoned skyscraper. In France, the engineer, Jules Saulnier, had anticipated American metal skeleton construction by a decade, when, in 1871, he built the turbine house of the Menier Chocolate Works at Noisiel-sur-Marne. To support its brick curtain walls, iron posts and diagonal braces were disposed in a manner similar to half-timber framework, showing "clearly that Saulnier derived a part of his inspiration from methods used in wood construction." (150) Thus it seems plausible to regard the final mature American cage or space-block construction as a fireproofed, incombustible extension of the principles of wooden construction. It is unnecessary to establish direct derivation from the balloon frame; it is enough to show that these two great American structural contributions were phases of the same tradition and exhibited the same broad principles. Iron is akin to wood in its natural properties: "the strength of iron is textile, while that of stone is in supporting direct thrusts." (151) Due to long-standing structural habits, Americans never have thought as easily and creatively in stone as in wood and iron. It is in these latter materials that they have introduced and developed new epoch-making techniques.

(147) Industrial Chicago, I, p. 54.

(148) Examples are Cummings and Miller, op. cit.; Bicknell's Village Builder (New York, 5th ed., 1873); and Bicknell's Specimen Book of One Hundred Architectural Types (New York, 1878).

(149) Holles, op. cit., pp. 209-215.

(150) Giedion, op. cit., p. 138. This book is also useful in reviewing the other pertinent facts of this development.

(151) Great Industries, p. 40.

Many other parallels between the balloon frame and skyscraper construction serve to emphasize their common origin. Both followed industrialization of production. Both were exploited to satisfy the demands of typical American land speculators (152). Both speeded erection time (153). Both had a marked effect on the production of the materials on which they depended (154). At their inception, both were considered beneath contempt as means to architectural beauty (155). Both used the curtain wall, which was a plane surface into which penetrations were made according to the dictates of structural regularity rather than by any code of aesthetic symmetry. Both were born of the American tradition of structural progress, and, being motivated by economic forces to satisfy new demands, were slow to attain the rank of recognized aesthetic forms (156). Each evolved its own aesthetics based on its own inherent structural potentialities (157). In short, each was of humble origin and had to fight in a typically American way to reach academic recognition and to prove that there could be a common denominator between the fine arts and an industrialized, middle class society.

As the first example of this merging of art and industry, the balloon frame is sufficiently significant, but it derives far greater importance from its key position in the American architectural stream. In it, are encompassed the constituent facts of log cabin, Colonial frame house, and modern metal construction. It is at once a summing up of native architectural tendencies and a guide to the best in latter day construction and design.

-
- (152) The following would serve as a brief bibliography for this interesting topic: Helen C. Monchow, Seventy Years of Real Estate Subdividing in the Region of Chicago (Evanston, 1939), for general economic trends; R.C. Smyers, Invested Wealth of Chicago (Chicago, 1889); F.R. Chandler, ed., Assessors' Land Valuations (Chicago, 1903), important for real estate prices in Chicago, 1832-1908; M(ark) H. Putney, Real Estate Values and Historical Notes of Chicago (Chicago, 1900); Industrial Chicago, op.cit., p.168; William H. Birkmaire, The Planning and Construction of High Office Buildings (New York, 1898); and Auguste Fabre, Les Sky Scratchers (Nimes, Bureau de l'Emancipation, 1896).
- (153) Birkmaire (op.cit., p.40) points out that this speed meant only one season was lost before returns began on the huge investment.
- (154) According to Bolles (op.cit., p. 209), "the use of iron in architecture" was a factor in the rapid rise of rolling mills after 1860. Previously most rolled iron had been imported.
- (155) The Leiter Building, built by Jenney in 1889, had a "monumental appearance, but monotonous exterior." (L. Schick, Chicago and Its Environs, Chicago, 1891, p. 216). In contrast, Giedion found it "a starting point for...architectural purity" (op.cit., p. 307).
- (156) Even Giedion mentions the balloon frame only as the point where industry first entered the field of architecture. (op.cit., p.268).
- (157) The skyscraper, obscured behind heavy Romanesque ornamentation, had to wait for Jenny's Leiter Building and Louis Sullivan's Carson Store and Wainwright Building to achieve its true exterior expression.

THE RESTORATION OF THE MANIGAULT HOUSE

by Beatrice St. J. Ravenel

Early post-Revolutionary coloring of a strong and somewhat daring, if austere nature, came to light during the recent restoration of the Manigault House at Charleston, South Carolina. The dwelling, in Adam style, and architecturally among the most important in the South, was designed c. 1790 by Gabriel Manigault, rice planter and amateur architect, for his brother, Joseph. The decline of the neighborhood in the present century made the building a slum, which led a touch-and-go existence, being saved from destruction only by the work of several individuals and organizations. The Charleston Museum came into possession of the property a few years ago without, however, being able to rehabilitate it. Last spring, a housing shortage caused it to be sought by the U.S.O. for a woman's club house. By arrangement between the U.S.O. and the museum, several years' rent was made available immediately for the restoration.

This work has been accomplished under the direction of Mr. Albert Simons, of Simons and Lapham, who volunteered his services. Members of the building committee, besides Mr. Simons, were Mr. E. Milby Burton, director of the Charleston Museum, Monsignor James J. May, vicar general of the Diocese of Charleston, Mrs. Austin Parker, club director, U.S.O., and Mr. John D. Rooney as financial coordinator. The club house, now in operation, is sponsored by the Woman's Division of the National Catholic Community Service, Inc., in connection with the U.S.O.

Apart from its intrinsic beauty, the Manigault House is important as the earliest known example of the Adam style in South Carolina. Gabriel Manigault (1758-1809), well read and well traveled, escaped to an eminent degree the superficiality which betrays the amateur. The house reflects the style of the Adam brothers not only in the decoration which stems chiefly from the Louis XVI aspects of their work, but in the fundamentals of the plan which embraces curving rooms with easy intercommunications, and closet space. Manigault set it between a public park (which still remains) and what was then open country, with the axis of the hall continued by a walkway ending at a circular garden house. He made a concession to the climate in the use of piazzas, but kept them subordinate, and integrated one of them with the plan by curving it to balance the curving dining room on the opposite side of the building.

While the staunchness of the masonry, local gray brick laid in Flemish bond, and the wooden-pegged slate roof, are excellent, they

Miss Ravenel, by inheritance, interest, and experience, is one of Charleston's most active and enthusiastic preservationists. JOURNAL readers are particularly fortunate in having from her such a succinct and understanding report of the restoration of one of Charleston's finest architectural monuments.

are not unusual and are probably due to the builder, who remains anonymous. But several exceptional details show Manigault's attention to practical matters. Piazza columns deteriorate first in their plinths; he made these of stone. A layer of lime (potent against insects and decay) was placed between floor and subfloor. On every story inside the outer wall, just back of the baseboard, a row of bricks bars the way to rats and the truly magnificent Charleston cockroaches. A system of concealed and counterbalancing weights was used to raise the heavy sash of the large half-moon window on the third story so that when lifted this sash would disappear into a pocket above.

Unlike some buildings which have been restored almost with ferocity, the house was accorded painstaking research before a paintbrush was applied. A half dozen coats of paint, more or less, were removed to determine the original colors. Even when results were surprising (as in the case of the baseboards of a utilitarian gray, matching the marble facings of the fireplaces), they were followed. The austere coloring was most marked in the dining room which combined doors grained to simulate satinwood, cafe au lait trim with a pinkish cast, and rich green walls under an ivory cornice and ceiling. The library, also on the first floor, was a fresh green with gray trim, while the small music room adjoining was found to have been purplish gray with dark blue-gray trim and doors grained like mahogany. To quote Mr. Simons, "One reason that this light architecture doesn't look weak and finicky is the strong coloring that went with it."

In every room a small piece of wall and woodwork has been left unrestored to show the original paint, constituting both a valuable record and an answer to doubting Thomases. A door has likewise been kept with the original graining uncovered. Some of the doors had been grained, others painted, and in every case have been returned to their first state. No trace of stain having been discovered on the floors, they have merely been waxed to preserve them.

As for structural matters, the house was examined exhaustively for signs both of decay and of alteration. It proved to have suffered few changes, being happily without additions, although one piazza had been tampered with, and the other had been wrecked by the last hurricane. An unsuspected fireplace in the first story hall was found to have been bricked up so early in its history that it has been left that way, the only evidence of its former existence being the framing of the timbers around the hearth, visible from the basement. The dramatic, curving staircase was largely unhurt, even the most casual of slum dwellers having respected it, so that only a few balusters were missing. These were supplied by some taken from the back stairs, the latter being replaced by substitutes. The elaborate plaster ceiling above the staircase was largely intact, as were, in general, the minute applied decorations on mantelpieces, doorways, chair rails, and cornices. Shelves were supplied for the brackets found in the dressing room off the master's bedroom. Most of the box locks with brass knobs on the top story were gone, and had to be replaced in kind, but the mortised locks with china knobs of the lower stories remained. Unchanged was that tourists' delight, the "secret passage" from the third to the second story, now believed to have been a clothes chute.

When it was impossible to secure an exact copy of the original, a temporary substitute has been employed. Owing to the war, small china knobs of French manufacture to replace those missing from the

solid inside shutters of the third story could not be obtained. Instead wooden knobs finished with white enamel paint have been used and can be removed without a trace whenever china ones become available. In a larger matter, the expense involved prevented duplication of the original. The halls, upper and lower, were found, unexpectedly, to have been marbled. To have repeated this decoration would have exceeded all estimates. The problem has been met for the present by painting the halls the color of the priming which fortunately was of an acceptable, bean-soup shade not far removed from the general tone of the marbling. If, in the future, additional funds are forthcoming, the halls can be marbled without further preparation.

Two striking painted designs have been reproduced with care. The smaller and more restrained is a frieze around the master's bedroom, consisting of a Greek rinceau pattern in ochre on a light ground. The other is the amazing ceiling of the drawing room which, as often happens in Charleston, is on the second story. On a light ivory ground, pearl gray cartouches containing anthems, the whole emphasized by gray shadows and white highlights to simulate relief, converge as it were toward a central medallion. These radiating cartouches are irregular, those extending from the four corners being the longest and proportionately the narrowest, while the location of the highlight and shade lines varies in different parts of the ceiling, making them appear as if they were the result of the natural light of the windows below. It is all very spirited and free and, probably because of the clear, flat tones, not at all oppressive, although the most uncritical eye sees that the large bold elements of its design are out of scale with the delicate architectural detail of the room.

This ceiling decoration had been so long painted over that it had been forgotten. Its restoration entailed the most careful work to discover, record, and repeat the exact variations of the design which was in poor condition. In fact, the center may have possessed greater elaboration than now appears, but possible under-, rather than over-decoration was thought preferable.

The plaster walls above the wainscot of this room revealed traces of the former presence of wallpaper, in sheets measuring 22 3/4 by 17 inches. The paper was entirely gone, but fortunately had been slightly embossed on the reverse side and had left faint impressions of much of its pattern in the paperhanger's paste which was the bottom stratum on the wall. Diminutive lines indicated the borders, and other marks showed the general proportions of designs which had covered the greater part of the wall; but of the designs themselves and much of the minute decorations in the borders, there was no trace. To replace the missing designs, the architects prepared stencils, using wreath, lyre, and other late eighteenth century motives which were painted in ivory on a mellow field just off mulberry, this shade being derived from the marble facing of the fireplace.

The house has acquired more character since it has regained its forceful coloring and has lost the pallid aspect which suits the imposing temple forms of the Greek Revival, but is too often given to any old structure regardless of its style. The building is now in constant use so that the expense entailed in its restoration has been justified even from a purely financial viewpoint, and hence it is to be hoped that its example may encourage the preservation of other notable old buildings.

REVIEWS OF ARCHITECTURAL HISTORIES

Kenneth John Conant, A Brief Commentary on Early Mediaeval Church Architecture, With Especial Reference to Lost Monuments. Baltimore. The Johns Hopkins Press, 1942. 34 pp., 50 pl; plans, diagrams.

Professor Conant, in his Brief Commentary on Early Mediaeval Church Architecture, had written the sort of book that a scholar at the height of his achievements can appropriately offer a somewhat specialized group of readers who are cognizant of his professional standing. Unencumbered by footnotes and appendices, the volume is a concise embodiment of the fruits of the author's rich experience in the world of mediaeval architecture. In a running commentary on the evolution of church architecture in the Middle Ages, the writer has penetrated through the archaeological minutiae that document his results and has grasped the general truths and essential relationships that constitute the basic pattern he seeks to present. In accomplishing this, Professor Conant brings to bear on his problem the advantage of a technical training which permits him to write not only as an historian, but also as an architect intimately aware of the physical implications involved in the material with which he is dealing. This is a valuable asset, for the mediaeval church, whatever else it is, is first of all a building, a structural organism designed to fulfill a definite function and ever seeking to improve itself in engineering expression, convenience, and beauty. It is as a building representing a stage of structural, social, and aesthetic progress, the mediaeval church should first be analyzed.

In place of the highly subjective interpretations of space composition frequently encountered, the writer offers as a true key to stylistic evolution an approach based on the varied combinations of volume-units and their external mass reflection. This comes closer to the actual generative process of architectural design as it was evolved by the mediaeval builders than do elaborate analyses advanced by academic theorists and aestheticians, logical in a philosophical sense though they may appear to be. At the beginning of his study Professor Conant establishes a series of basic architectonic elements which were adopted in Christian architecture and which were experimented with in different spatial combinations and in various engineering expressions. By showing the evolutionary process operating on the open hall, pillared hall, basilica, rotunda, shed form, tower, and spire, a refreshingly clear system is provided whereby a complex period succumbs to the author's analysis of the many combinations of these units. The latter are well defined and their subsequent relationships are clearly traced. Although he employs a spatial approach, he combines it effectively with sensitive aesthetic appreciation and with due regard for the influencing forces of the age. Long tested in the laboratory of the lecture room, Professor Conant's graphic classifications of the compound spatial elements so richly represented in Byzantine architecture provide a particularly useful method of bringing intelligibility into a difficult area of architecture. Throughout, the book reveals in its orderly arrangement and in its classificatory devices the author's capabilities as a teacher.

It is significant that the writer has chosen to trace the growth of mediaeval architecture in terms of mutilated or lost monuments whose place in architectural history has hitherto been inadequately evaluated because of lack of knowledge concerning them. In doing this, he has not only emphasized the deplorable indifference and vandalism which have led to the irreparable loss of conspicuous treasures, but he has focused attention on the vital problem of lost monuments and their relation to the study of the architectural history of the Middle Ages, a problem which has been side-stepped for altogether too long a time. Professor Conant long ago began a systematic campaign to rectify this situation. In his own researches, in those of his students, and in his teaching, he is the sponsor of a graphic technique of investigation that offers most promising results. The technique demands much patience in sifting the scattered evidence that time and man have spared. Its reduction of archaeological data to scale drawings and restorations gives a workable tangibility to results which would otherwise be so hopelessly abstract and uncoordinated as to be of limited usefulness. Professor Conant is fully conscious of the limitations of such a reconstructive method, and states them clearly in his introduction; he quite justifiably maintains, however, that incomplete though the results necessarily are, they provide visual data of fundamental importance in the writing of architectural history. Through the application of this technique much that was obscure has already been clarified. The success of his procedure has inspired students on whose productive researches he has drawn generously, as a glance at the plate captions shows.

In several periods Professor Conant has made illuminating contributions. In the still obscure Second Golden Age of Byzantine art he has pioneered with helpful suggestions concerning the form and significance of mutilated and destroyed monuments. Especially noteworthy is his analysis of the fusion of southern and northern elements in the generation of western mediaeval church architecture, wherein the combination of the Roman basilica and the northern staged tower with its vivacious silhouette engenders a change in spirit away from the static, self-contained composition of the classic church in the direction of mediaeval picturesqueness, verticality, and emotion. His consideration of the wooden-framed churches of Scandinavia and Russia as the epitome of northern spirit dramatizes the indigenous component of the north that vitalized the classical nucleus with all its formality, the better to serve the Christian spirit of northern Europe at the height of its mediaeval faith.

In dealing with the second wave of southern influence which brought in the tradition of the fireproof masonry vault, Professor Conant writes as a technical expert on those intricate engineering novelties which, as they adapted themselves to new problems and new conditions, eventually emerged as the structural triumph of the Gothic cathedral. Important is the emphasis given to the role of Burgundy in the tenth and early eleventh century development of the barrel vault, as illustrated at Charlieu, the second church at Cluny, and Saint-Benigne at Dijon. Like the architecture that he analyzes, the writer's argument rises in a justifiable crescendo to a climax in his estimate of the third church at Cluny which he treats as the culmination of the Romanesque style and as the forerunner of fundamental Gothic principles. Having already pointed out the isolation of supports and the non-structural character of screen walls in his discussion of Byzantine architecture, he finds the same principles operating in parts of Cluny where they are accom-

panied by such progressive factors as pointed arches, catenary vaults, and thin vault webs, the precursors of Gothic mechanics. A welcome addition to the series of preliminary Cluny studies that must suffice until the appearance of the definitive monograph are the beautiful restorations some of which have never before been published.

Professor Conant's latest book makes no pretention of being another history of mediaeval architecture in the standard sense; it is rather a supplement designed to present a different approach and to fill lacunae through reference to monuments long since altered or destroyed but restored to knowledge through the author's research and through that of his disciples. No attempt is made at complete coverage of the field, but type monuments are selected which illustrate the evolution of basic architectonic units interplaying with stylistic development. The text is written in a straightforward, sensitive style, a good sample of which is the estimate of St. Sophia. It presents the material with satisfying logic in steps sketched in with impressionistic clarity. Much of the value of the book is contained in the splendid plates which include renderings executed in a brilliant, almost stereoscopic technique and illusionistic reconstructions worked up from photographs. These do much to restore their subjects to the status of living monuments. The absence of an index is scarcely felt, for the book is not a fact-packed reference work. It is modest in format, but monumental in its implications.

Carl K. Hersey
University of Rochester

John Coolidge, MILL AND MANSION - A study of architecture and society in Lowell, Massachusetts, 1820-1865.
Columbia University Press, New York, 1942. 251 pp.
92 illus., indx. bibliography.

This book makes several major contributions to the history of architecture in the nineteenth century. It is a detailed study of a small area as a whole, many more of which are needed before we can understand the nineteenth century. This is the author's basic purpose and he has to a commendable extent achieved it. As a pioneer work, it should stand for a long time as a major accomplishment. As a pioneer work, it is also to be expected that the book has imperfections which will be corrected in later works modeled upon it.

Coolidge sets out to study a microcosm very closely, and picks Lowell for this since it is well known. There is adequate material available, and Lowell has not been too drastically changed since 1865. In studying it, he assembles the history of Lowell, of its site, of its architecture and its social history, and then seeks to establish relationships between all this material. His purpose is to define these relationships and to clarify the meaning of the commonplace, vernacular architecture of the first part of the 19th century. Also, it is claimed for Lowell that its housing and city plan were outstanding achievements. The housing may have been, but the city plan as presented does not seem to justify this claim.

In developing the stylistic analysis of the architecture of this period, 1820-1865, some excellent additions are made to our understanding of this period. The revivals are classified as overlapping and fugue-like in pattern. Three stages are defined: the first, Decorative, details from the past to decorate traditional building forms; second, Archeological, duplication of the form of some accepted model; third, Eclectic, motives reorganized to constitute an original style.

Another valuable section deals with the bracket. The stages are also defined for the Lowell examples: in the forties, the brackets are small and horizontal; in the fifties, they are huge, paired and pendant; in the sixties, they are triangular, regularly spaced and richly ornamented; later they are reduced to mere corbels and continue in this form down to the present.

The paternalistic housing of Lowell, in relation to the working conditions, the type of person employed, the arrangement in close proximity to the factory as the dormitory to the school rooms in a boarding school, is well covered. The life of the workers is recreated for us in these pages although the community aspects such as recreation are not. The buildings themselves, illustrated with plans and exterior views, are certainly worth the attention paid to them. The analysis of the forms is not always as percipient as might be wished. The relation between the houses in Chelmsford, 1802, and Dutton Street, Lowell, 1825, and the Model Cottages by John Wood, 1781, (figures 6,7,8,9) does not in my opinion justify the claim made on page 237 of "remarkable similarity." The number of stories differs; the proportion of roof to wall, the chimney, the proportions of the windows and their relation to the doors, the polychromy, the increase in depth from one room to two, are all at variance. This particular Model Cottage was followed much more closely in 19th century English examples.

The arrangement of the book is subject to considerable criticism. Doubtless the separation of the material into four sections was done partly for economy, partly to leave the main text unnumbered. The latter seems hardly justified as few who read this book will do so without previous interest in the subject, and this interest will be so stimulated in the reading that the cross references will be followed up avidly. But to follow them, one must keep four places going at once: the text, the notes (bulkier than the text and as rich as a pudding), the notes to the illustrations, and, last, the illustrations themselves. The awkwardness of this can madden the most assiduous scholar.

The notes contain both architectural and sociological material, and so does the text. Thus it is impossible to gain a connected story of either independently. It may be said that this interconnection is basic. So it is, and so it should have been combined in a single system.

It is shocking to this reader to find architectural material treated in 1942 as though it were a matter of facades and form, with scant consideration of the interior space and functioning of the parts. Of more than sixty buildings illustrated, plans are given for only four, and no sections. It is time that all writers on architecture showed that they understood that a building cannot be studied from the outside alone, as though it were a painting; there must be plans and sections if it is to be grasped as a three dimensional structure serving a useful purpose. This is particularly inconsistent as so much fine sociological material is included.

City planning is one of the two principal achievements of Lowell according to the author, but we are only given one panoramic view, two sketch plans, and one block plan of a small area. It is not possible to understand the development of a city plan from this material. There should be a plan of the site, and successive plans, preferably at the same scale, showing the changes from period to period. Furthermore, all place and street names mentioned in the text should appear on some plan. The plans given are not sufficiently detailed to tell the story; the scale is not indicated; relationship to adjoining sites and places is not shown by an adequate map of the region.

To the architect and art historian, there are descriptive passages which are not comprehensible; for instance, from p. 81 "In a later house in Lowell the portico is reduced to a row of five pilasters which are interspersed between seven windows and a stepladder of sunken panels."

Respectful as we are of the learning and scholarship displayed in these pages, the assumption by the author that it is possible to date a nineteenth century building in America on stylistic grounds within five years seems unwarranted as a general statement. Happily the author does not apply this principle without securing supporting evidence.

Although the book lacks coherent organization and the main objectives do not seem to be wholly substantiated, nevertheless the effort has been worth while. The accumulation of data of the greatest possible interest to the historian and the sociologist and some really brilliant criticisms make this book important, particularly because the close relationships between economics, sociology, and building are so thoughtfully studied. It is to be hoped that the courageous example thus set will initiate a series of similar studies of other locales.

Carroll L. V. Meeks
Yale University

- - - - -

J. L. Sert, CAN OUR CITIES SURVIVE? Introd. by
J. Hudnut. Preface by S. Giedion. Cambridge (Mass),
Harvard University Press, 1942. 235 pp. 300 ill, plans,
diagrams.

At the outset it should be made clear to the Society that this compendium of planning axioms is not in any real sense a history either of city planning or of architecture. There are, however, historical motifs that appear and reappear throughout an elaborate text. The book as a literary or scholarly effort is disappointing. The text, in fact, could have been reduced by half, relying for its major strength on the illustrations. These form a fairly complete text with an excellent, though rather obvious use of comparative and familiar topics which form the general theme of each major subdivision, whether it be Dwellings, Recreation, Work, Transportation, or other subjects vital to city planning and to architecture. Alfred Roth in "The New Architecture" is more capable with photographic texts.

One finds little in the book which adds materially to Giedion's SPACE, TIME, AND ARCHITECTURE. In fact, one feels that this is a mere

appendix to the other more provocative document. Better integrated historical material than that contained in CAN OUR CITIES SURVIVE? can be found in the works of Mumford, Thomas Adams, Giedion, Hamlin, Bauer, and several others who have dealt with the history of the growth of community planning and housing with rigor and spirited accuracy during the past fifteen years. Although granted that good material bears repetition, it had been my hope rather to find here reproduced more examples of the work of the C.I.A.M. than have appeared heretofore, and more examples of actual planning accomplishments. We are all too aware of the many pathologies which affect our urban structure, and where live experimentation has taken place, as apparently it did in the C.I.A.M. We had hoped for fewer protestations, for more specific examples of proposals, and more concrete solutions. Possibly I have been prejudiced by the format, the sententiousness of the style, the italics, and the confused sequence.

However, my disappointment in the text may have been due as much as anything else to the fact that I had expected to find here a clear exposition of the work of the *Congres Internationaux d'Architecture Moderne*. We have been waiting with some impatience for a history of the C.I.A.M. and its affiliate or sister organizations, of which little has as yet been published in this country. To me the most interesting parts of the book, historically and otherwise, were the very brief introduction and appendix containing the aims and statutes of the C.I.A.M. In his introduction, Giedion states that the material collected in Paris in 1937-1938, as a result of work done by the Swiss and the Dutch groups of the C.I.A.M., was to be completed by Mr. Sert. However, it is not clear whether this book is an interpretation of the groups of the C.I.A.M. or whether it is only Mr. Sert's personal expression.

It is apparent from what is outlined in the appendix that the C.I.A.M. developed with little relationship to our own architectural groups in the United States. Knowledge of the C.I.A.M., its functions and its operations, was limited largely to a select few, its representatives in this country being a small group of excellent architects, mainly American citizens of foreign origin, who had gained their stature in architectural practice in their native countries before coming here to continue their work. While this is meant in no way to indicate that these architects should not represent American architecture, it does indicate that our native architects were not participating to any large extent in the movement.

The Congresses of 1928, 1929 and 1930 were held while I was an architectural student, and no reverberation of these Congresses was to be felt either in the faculty or the student body of my school. In fact, I cannot recollect that they received any important place in any American architectural journal of the period, or have they been given marked recognition since. The work done by the American group of the C.I.A.M., such as the Detroit and Los Angeles studies of 1933, received little publicity here, and to my knowledge have not been made available to the American architectural and city planning public in any completed form. There is no blame attached to this, but those of us who were not and are not among the initiate find it difficult to accept the enthusiastic claims as to the importance and success of the C.I.A.M. without some further documentary evidence.

It is unfortunate also that the C.I.A.M. traveling exhibitions were not widely displayed here along with translated texts of major

publications, for although copies of the original publications are to be found in our major architectural libraries, the work of the C.I.A.M. remains to us both vague and esoteric. Those of us who were fortunate enough to travel in Europe in the last ten years, studying planning and housing, encountered mention of the C.I.A.M. from time to time, and news of such works as the splendid Amsterdam Plan, which received the organization's stamp of approval, was brought back with alacrity.

Incidentally, Giedion mentions in his book the material that has been collected by the C.I.A.M. and preserved in its archives in Zurich. A catalog of such material would be invaluable to us in appraising the interests and the point of view as well as the accomplishments of the organization. Is one available?

It is sincerely to be hoped that the book in preparation, **THE ANALYSIS OF CITIES**, can give us a more accurate historical summary of the development and the accomplishments of the C.I.A.M., and that in the future our own architects and city planners will participate more fully in the problems of international architectural planning after the war is over. Now is the time to lay the foundation for such future action.

Carl Feiss
Director
Denver Planning Commission

PERILS of RESEARCH

Members of ASAH who contemplate photographic excursions or research may well ponder the experience of two recent investigators of Catskill, N.Y. jig-saw baroque. Armed with tripod and camera, our innocents turned into a lane bordering Catskill Creek, where they were amused by a wayward little mill sporting a jaunty 1840 belfry. After several minutes questioning whether the subject was worth a 17-cent picture, they decided that they ought to record this humble, forlorn specimen as a gesture of civic duty, but no sooner was equipment set up than several belligerent employees appeared vociferously proclaiming that their unassuming structure was in truth a vital link in fabricating materials of war. Not only were photographers suspect of sabotage intentions, but guilty also of causing absenteeism of workers who presumably had to keep constant watch out the window. A show of credentials seemed to appease the foreman, and, despite the protestations of the culprits that the structure hardly warranted a picture anyway, he insisted that they apply to main office on the other side of town. Indeed, he himself would telephone a plea for permission. Inquiry proved, however, that a picture could be had only by applying to the Federal Bureau of Investigation in Washington, a matter of only a few months' correspondence. Members no doubt will draw the obvious warning that research in architectural history is not the quiet, detached avocation one would suppose, but rather a hazardous adventure fraught with danger and excitement, unless of course it can be confined to non-controversial houses and churches. In any case, members should carry their new membership cards to prove that ASAH is not promoted by Herr Dr. Goebbels. At last report Catskill is still safe.

WASHINGTON CHAPTER, ASAH, GETS UNDER WAY

Through the initiative of Alan Burnham, a small but enthusiastic group of ASAH members met at the home of Mrs. Joseph Pulitzer, Jr., on the evening of March 30, 1943, to plan the formation of an active local group of the American Society of Architectural Historians. Dr. Leicester B. Holland, a director of the Society, presided and outlined briefly the formation, aims, and program of ASAH, and the potential objectives and benefits of a local Washington group. Plans were made for the first regular meeting in which all ASAH members in the capital and environs, as well as interested prospective members, are urged to participate. Those interested should communicate with Alan Burnham, 1117 E. Capitol St., Washington, to be sure of receiving notices.

At the close of the discussion, guests enjoyed a buffet supper provided by the hostess, and informally inspected a most interesting exhibit of architectural photographs covering a wide range of Americana. Members present were Mrs. Pulitzer, Dr. Holland, Alan Burnham, Lt. Comdr. Ralph Cole Hall, Lt. Perry Rathbone, and Lt. William Bernoudy.

- - - - -

NEW YORK CHAPTER HOLDS FIRST MEETING

Over fifty ASAH members and guests in metropolitan New York assembled for the inauguration and first meeting of the New York Chapter, ASAH, at New York University's Institute of Fine Arts, 17 E. 80th St., on Wednesday evening, April 14, 1943. Talbot Hamlin presided and opened with a resume of ASAH history and activities and described the many advantages in an active local program.

The topic for the evening was history of city planning, and the first speaker, Dr. Karl Lehmann-Hartleben of the Institute of Fine Arts, gave an excellent paper on "The Impact of Ancient City Planning on European Architecture." Professor Leopold Arnaud, Dean of the School of Architecture, Columbia University, followed with an illuminating talk on "Medieval Towns." Lastly, a paper on "Early Town Planning in New York State" was read by Professor Turpin C. Bannister, Rensselaer Polytechnic Institute. (It is planned to use these three papers as the nucleus of a special issue of the JOURNAL.) Refreshments followed, loosening informal discussion, both historical and social. As a result of the meeting, a large number contributed local dues and six new members were added to ASAH. Plans are being laid for the next meeting to be held in November.

Congratulations and thanks for initiating this meeting are particularly due the committee, Talbot Hamlin, chairman, Leopold Arnaud, and especially Agnes Addison Gilchrist, who acted as secretary in sending notices. It was particularly gratifying to have present members from Providence, New Haven, and Princeton.

- - - - -

THORNTON SOCIETY ESTABLISHED

ASAH is delighted to report news of the establishment in Washington of the Thornton Society for the purpose of stimulating interest, research in, and the preservation of the historic architecture of the capital and surrounding areas of Maryland and Virginia. Through the organizing genius of ASAH member, Lieut. Charles E. Peterson, USNR, who is pro tem chairman, about 150 members are now enrolled. Mr. Peterson has been assisted by Miss Frances Benjamin Johnston, Miss Elizabeth Baldwin, and others.

At the first meeting, held on Wednesday, March 17, 1943, at the Arts Club of Washington, Mr. Charles C. Wall, Superintendent of Mt. Vernon, spoke on "Mt. Vernon, Yesterday and Today." Mr. Wall, who has been associated with the Mt. Vernon staff for thirteen years, sketched the physical history of the estate from the mid-eighteenth century, and illustrated its development and present state with fine Kodachrome slides.

The second meeting, on April 20 at the Cosmos Club, heard two excellent, illustrated talks, the first, "A Sketch of the Life of Dr. William Thornton" by ASAH member, Thomas T. Waterman, the second, "Thomas Jefferson and the Founding of the National Capital," by Mr. William Partridge, Consultant to the National Capital Park and Planning Commission. Dr. Leicester B. Holland introduced the speakers.

The program of the Society includes, in addition to meetings and lectures, the encouragement of individual and group research on the architecture of Washington and adjoining areas, and, as funds accumulate, publication of bibliographies, important source material, and monographs. Special field trips to important sites will be held from time to time, the first being set for Sunday, May 23, when members will go by boat to Mt. Vernon. Membership is open to all those interested in this program of activities, and Lieut. Peterson writes that ASAH members are particularly welcome. 1943 dues are \$1.00 and should be sent to Miss Alice Lee Parker, Fine Arts Division, Library of Congress.

- - - - -

THOMAS JEFFERSON BICENTENNIAL EXHIBITION

ASAH members who were in Washington between April 13 and May 15 should remember the unusual opportunity to inspect architectural drawings by Thomas Jefferson afforded by the Jefferson Bicentennial Exhibition being held at the National Gallery of Art. In connection with this exhibition, ASAH director, Fiske Kimball, of the Philadelphia Museum of Art, spoke, April 13, on "Portraits of Jefferson," and on April 25, Thomas T. Waterman, ASAH, lectured on "Jefferson as an Architect." Mr. Waterman's talk will appear in a forthcoming issue of the Gazette des Beaux-Arts.

- - - - -

"MATTAPONI" GOES TO WAR

"Mattaponi," a large, two-and-a-half story, brick plantation house dating in part from the seventeenth century and standing on the south bank of the Patuxent River, St. Mary's Co., Maryland, has been

inducted into service as the residence of the Commanding Officer of the new Cedar Point Naval Air Station. When the property was acquired last year by condemnation, the house was under restoration by the owner. This work has been completed by navy authorities, who have conformed as nearly as possible to the original design.

DEATH OF SIR REGINALD BLOMFIELD

Students of French and English architecture will receive with sadness news of Sir Reginald Blomfield's death on December 27, 1942. Born in 1856 in Aldington, Kent, he was the third son of Rev. G. J. Blomfield and Isabella, daughter of C. J. Blomfield, former Bishop of London. After Exeter College, Oxford, he studied architecture with his uncle, Sir Arthur Blomfield, and in the Royal Academy schools, and traveled a year before establishing his office in London in 1884.

Blomfield's 58-year professional career was marked by a long series of important commissions. Besides numerous country houses and their gardens, he designed and built many public buildings and war memorials. He fulfilled many professional appointments, having been President, RIBA, in 1912-14.

To American scholars, Blomfield was known principally through his histories of French and English Renaissance and post-Renaissance architecture. A list of his publications, taken from the RIBA Journal, January, 1943, follows:

The Formal Garden in England (1892); A History of Renaissance Architecture in England (1897); A Short History of Renaissance Architecture in England (1900); Studies in Architecture (1906); The Mistress Art (1908); A History of French Architecture, 1494-1661 (1911); Architectural Drawing and Draughtsmen (1912); A History of French Architecture, 1661-1774 (1920); The Touchstone of Architecture (1925); Byways: Leaves from an Architect's Notebook (1929); Memoirs of an Architect (1932); Modernismus (1934); Six Architects (1935); Sebastian le Prestre de Vauban (1938); Life of R. Norman Shaw (1940).

To this list must be added Three Hundred Years of French Architecture; and many articles contributed to professional periodicals.

DETROIT REVIEWS ITS ARCHITECTURE

1943 is an auspicious year to re-examine the course of architecture in America, particularly in the Middle-West. After half a century we may now measure the return, albeit with material changes, to the general direction of artistic originality and stylistic freedom which prevailed before the fateful Columbian Exposition of 1893. Aided by the perspective of fifty years and more, we may trace the progress of style and techniques in American architecture from the florid, staccato sixties and seventies to the relative simplicity of the late eighties and early nineties. This tendency toward an organic directness was far more widespread than is generally recognized. Although

the movement may have emanated from the East, the greatest drive and vitality expressed itself palpably in the growing cities of the Midwest, St. Louis, Cincinnati, Cleveland, Detroit, Minneapolis, and Chicago--the center which first nurtured the indigenous elements, but later, under outside influence, almost stifled them.

Among these cities, Detroit has led the way in setting up a comprehensive review of its representative buildings in the recent exhibition held at the Detroit Institute of Arts. Assembled and catalogued by Mr. Hawkins Ferry, the exhibit consists of photographs, models, and architects' original drawings arranged in revealing sequence from 1823 to 1943. Mr. Ferry is well qualified for his task, being an architect, a student of contemporary art, and--what is more rare--a third generation Detroitier. His show adds another chapter to the cross-sectional survey of American architecture inaugurated by Henry-Russell Hitchcock, Jr., in his studies of the buildings of Rhode Island and of Buffalo, N.Y.

An architectural exhibition, especially one dealing with historical material, challenges the ingenuity of its planner lest he appeal only to the limited audience of antiquarians. Mr. Ferry successfully meets the challenge by using many photographic enlargements, by a clever arrangement of display screens, and by using large areas of symbolic color behind the photographs and drawings. In his selection of material and in the arrangement of it, he demonstrated the historical relationships of past and present buildings and has given the Detroit public a stimulating view of its architectural heritage. Mr. Ferry has also uncovered many enlightening facts and anecdotes about the local architects and their work, which are published in the current Detroit Institute of Arts Bulletin.

The actual material of the exhibit will form the nucleus of a permanent architectural collection to be kept for study and exhibition at the Institute. Already, large blocks of buildings have disappeared from Detroit's streets, and many more must give way in the process of rebuilding the city. Thus the Museum serves the community by collecting and cataloguing photographs and drawings of the most significant architecture, recording the best of the past and yet assisting in the normal and organic change by making it unnecessary to preserve many obsolete and poorly placed structures.

Although the earliest example in the Detroit show dates from 1823, and one or two others from the forties, most of the extant architecture was built since the Civil War. Expanding rapidly through the sixties and seventies, Detroit "came of age" during the eighties. This change is reflected most interestingly in the residential and commercial buildings of the period. Mr. Ferry traces the evolution of several Detroit firms: Mason and Rice, Donaldson and Meier, Scott, Kamper and Scott, the late Albert Kahn, and others; he also includes notable examples of the Detroit work of architects from other sections: H.M. Richardson, D. H. Burnham, Wilson Eyre, Cass Gilbert, Paul Cret, and Frank Lloyd Wright. Because of the difficulty in obtaining material during war time, Mr. Ferry has not attempted to present one of the most significant portions of Detroit's architecture--its industrial buildings, especially the early factories by Albert Kahn and the other architects whose work in this field preceded his. Here indeed is enough material for a show by itself!

In studying this exhibition, one wonders why we must continue to classify our late nineteenth century architecture as derivative, and only in terms of its ornamental details, such as French Second Empire, Italian Gothic, Romanesque, Queen Anne, etc. Is there not a broader style distinction based with more validity upon the handling of architectural elements and the plan? It seems possible that some such treatment might, for example, group together certain buildings which superficially are in various "styles;" and yet it would differentiate other buildings which are casually regarded as being alike because of some bits of similar detail. When historians of architecture turn their attention to the real esthetic meaning of buildings, even though it be partially hidden behind Victorian whiskers, then we may begin to understand the confusing welter of our nineteenth century architecture, and also that of the twentieth century. A fresh point of view might explain, among many other puzzles, the curious predilection for mass and solidity of form which still persists in America even in structures of steel, sheet glass, and ferroconcrete. Perhaps a new importance would be attached to many buildings which, on the basis of the grammar of ornament, are usually termed "nondescript."

Aside from its factories, Detroit proper has relatively little to show in significant contemporary buildings. However, Mr. Ferry gleaned sufficient material scattered among the surrounding suburbs to complete the exhibit. Detroiters were made to feel they had a creditable showing of modern work by including some buildings of the Cranbrook Foundation complex, as well as several out of state structures designed by the Saarinens. Since 1938, the local Housing Commission has completed and is now operating six Public Housing Projects (5,071 dwelling units) and has plans drawn for two more (2,500 d. u.). At best, these may be called interesting experiments in a city of one and a half million. The future of Detroit architecture seems necessarily related to the post-war development of the city's master plan. There are hopeful indications that the next fifty years may see other types of buildings progress as surely as has Detroit's industrial architecture in the last half century.

Buford L. Pickins
Wayne University

N E X T S T E P S

JOURNAL

To celebrate the beginning of our third volume, a double issue of the JOURNAL will be devoted to the history of city planning. Carl Feiss, now director of the Denver Planning Commission, will lead off with "History and the Modern City Planner." The three papers given at the inauguration of the New York Chapter of ASAP by Dr. Karl Lohmann-Hartleben, Dean Leopold Arnaud, and your editor will follow. Hans Blumenfeld, of the Philadelphia Planning Commission, will contribute an excellent article on "Lessons from City Planning History." All in all, it should be a field day for a field which American scholars are discovering as great an interest as in buildings themselves.

GENERAL

Members who have not yet sent their election ballots to Professor Henry R. Hope, Dept. of Fine Arts, Indiana University, Bloomington, Ind., should do so immediately, for the tabulation of results will begin June 1, and announcement will appear in the next JOURNAL.

CURRENT BIBLIOGRAPHY IN ARCHITECTURAL HISTORY: August-December, 1942

Compiler: Ruth V. Cook, Librarian, School of Design, Harvard Univ.
Assistant for Islamic and Far Eastern Architecture: Myron B. Smith,
Library of Congress
Make-up: Jane D. Spore, Librarian, Dept. of Architecture,
Rensselaer Polytechnic Institute

Scheme of Classification

Bibliography
Periodicals
General: general histories, essays, exhibitions, views
Biography
Geographical: continents, countries, regions, towns, buildings
Chronological: period, century, year
Building Types: agricultural, commercial, residential, etc.
Structural: materials, structural systems, details, equipment
Aesthetic: organization patterns, details, ornament, decor, arts
Professional: arch.education, professional administration, econ.
Preservationism: damaged monuments, preservation, reconstruction
Reviews of architectural books

BIBLIOGRAPHY

- 349 Lassalle, Emilie Sandsten, compilen.
Arts, crafts and customs of our neighbor republics, a ____.
Library service division in cooperation with the office of
coordinator of inter-American affairs. Wash., D.C.
Federal Security Agency, 1942.
350 Renaissance books on Architecture. by W.M. Ivins, Jr. il.
(Met. Mus. Bul. N.S. v.1, p. 151-5 D'42)
351 Union catalog of art books in Chicago (College Art J. v. 2,
p. 19-21 N'42)

PERIODICALS

GENERAL see R 57 (Education)

- 352 American Society of Architectural Historians, Cambridge-Boston
local group organized (J. ASAH, v.2, p.31, J1 '42)
353 Architecture and engineering by W.H. Ansell. il (J. RIBA nws.
v.50, p. 7-11 N'42: correction p. 26 D'42)
353a Art. Robb, David M and Garrison, J.J. Art in the western world
reved. N.Y. Harper, 1942. 1054 p. il. pl. bibliog. p. 978-1000
354 Education: Plea for the teaching of architectural appreciation
in schools. by W.F. Morris (J. RIBA ser.3, 450, p.39-40, v.50,
Dec. '42)
354a _____. In defense of art history teaching. port (Mag. Art
v.36, p.20 Ja'43)
355 _____. and architecture, by J. Hudnut. il (Arch. Rev. v. 92
p 36-8 O'42)
356 Exhibitions: Archives of Detroit architecture (to be assembled
Feb. 1942 by Hawkins Ferry) (J. ASAH v. 2 p 32 J1 '42)

- 357 ---, Brasil builds, an exhibition of modern and colonial architecture. il. (Mus. Mod. Art, v. 10, p. 22-3, F '43)
- 358 ---, Brasil builds on tradition and today; --- of photographs of architecture from 1652-1942 at Museum of Modern Art by R.C. Smith. il. (Art N. v. 41, p. 14-19, F 1 '43)
- 359 ---, The Englishman builds (news item and illus.) (J. RIBA ser. 3, v. 50, no. 1, p. 2, N '42)
- 360 ---, Exhibition of architecture in painting. Addison Gallery, Andover, Mass. (J. A.S.H. v. 2, p. 32-33, J1 '42)
- 361 ---, Painted buildings at the Addison Gallery (Art N. v. 41, p. 34, D '42)
- , Detroit buildings. See 490.
- , Drawing room and dining room from Colonel John Stuart house, Charleston. See 482.
- 362 How archaeology aids history. by M.I. Rostovtzeff (Yale Rev. ns, v. 31, p. 713-29, Jo '42)
- 362a Museums: War time duties of historical museums. by L.H. Shattuck (Mus. N. v. 20, p. 6-8, O 1 '42)
- 362b Tradition; Eden, W.H. Process of architectural tradition. N.Y. Macmillan, 1943. Illus.

BIOGRAPHY

- 363' Check list of European, British, and American architects designed for the field trips of the approach to the arts classes. (N.Y. 1941) 3 p. 9 numb. reproduced from type-written copy. "Compiled by J.H. Kingsley, Jr." Pref, note. The term "architect" in the middle ages, see 522.
- 364 Bayer, Herbert - architect and artist. by H.F. Kraus. il. (Art and industry, v. 33, p. 9-13, J1 '42)
- 365 Blomfield, Sir Reginald, R.A. Port. (Arch. and Bldg. News v. 173, p. 26, Ja 8 '43)
- 366 ---, 1856-1942 by A.E. Richardson (J. RIBA ns, v. 50, p. 65-67, Ja '43) (Archts. J. v. 97, p. 2-4, Ja 7 '43) port.
- 367 Bramante, Architectural phantasies of --- by G.H. Richter. il. (Gaz. Beaux Arts, s. 6, v. 23, p. 5-20, Ja '43)
- 368 Breasted, James H. Pioneer of the past, the story of --- by Charles Breasted. N.Y. Scribner, 1943, 436 pp. il.
- 369 Buffington, LeRoy S. and the Minneapolis boom of the 1880's. by H.B. Christison. Bibliog. (Minn. History, v. 23, p. 219-32, S '42)
- 370 Cameron, Charles, an xviii English architect and decorator, by G. Loukowski. il. (Apollo, v. 36, p. 29-31, 61-63, Ag, S '42)
- 371 ---, a Scots architect in Russia, by G. Loukowski. il. plans (Arch. Rev. v. 93, p. 9-20, Ja '43)
- 372 Cotman, John Sell. Centenary. by H.G. Foll (Connoisseur v. 110, p. 77-78, S '42)
- 373 ---, 1782-1842; a memoir. by M. Harrison (Apollo, v. 36, p. 6-7 J1 '42)
- 374 Cram, Ralph Adams, 1863-1942; I know him well; tribute by W.W. Watkin (Pencil P. v. 23, p. 3, O '42)
- 375 ---, obituaries. (Arch. and Eng. v. 151, p. 51, O '42) (J. RIBA s. 3, v. 49, p. 225, O '42) (Arch. Rec. v. 92, p. 84, N '42) (Liturg. Arts, v. 11, p. 1, N '42)
- 376 ---, special tributes by Charles D. Maginnis, James Sholdon, F.E. Cleveland, H.B. Little, E.F. Aisnor, and E. Babney. il. port (Stained Glass v. 37, p. 103-125 Winter 1942)
- 377 Davies, Norman de Garis, 1865-1941; obituary (Am. J. Archaeol. v. 46, p. 413, J1 '42)

- 378 Fielding (Henry), and the first Gothic revival. by R.B. Heilman. (Mod.Lang. N. v.57 p.671-73 D'42)
- 379 Hamilton, Andrew; Konkle, Burton Alva; The life of _____. Phila. Nat'l Pub.Co. 1941
- 380 Harris, Thomas, by Dudley Harbron. il (Arch.Rev. v.92, p.63-66, S'42)
- 381 _____a Harris florilegium. il (Arch.Rev. v.93, p.51-52 F'43)
- 382 _____author of "Victorian architecture" by Dudley Harbron. il (Arch.Rev. p.63-6, S'42)
- Hennebique, Reinforced concrete house by _____ see 396.
- 383 Kahn, Albert, 1869-1942. Obituaries. il, port (Arch.Rec. v. 93, p.14 Ja'43) (Arch. For. v. 78, p. 36, Ja'43) (Arch. and Eng. v. 151 p. 48 D'42) (Pencil P. v. 24, sup. p. 1 Ja'43)
- 384 Kahn, Julius, 1874-1942 (Arch.For. v. 77 p. 110 D'42)
- 385 Latrobe, Benjamin H; _____ vs. Strickland. by Agnes Addison (J. ASAH v.2, p. 26-29 J1 '42)
- 386 Lutyens, Sir Edward; Lutyens, Robert; _____, an appreciation in perspective, London, Country Life, 1942, il,
- 387 _____: The necessity for _____; an editorial. il (Archts. J. v. 97, p. 119-22 (Feb. 18'43)
- 388 _____: A vision of the new London, plans by Sir Edwin Lutyens' committee exhibited at the Royal Academy by C. Hussey il.pl. (Country L. Lond. v. 92, p.692-96 O 9 '42)
- 389 Michelangelo; Unpublished record of _____ by K. Tolnai, facsim (Art.Bul. v.24, p.380-1 D'42) _____
- Newton, Ernest see 423
- 390 Reilly, C.H; Royal gold medal, 1943 to _____. il (Arch.Rev. v.93, p. xxxv F'43) (Archts.J.v.96, p.405-6, D 24'42)
- 391 Scott, Sir Giles Gilbert; biographical article and appreciation by Luis Bay Sevilla (Arquitectura, Habana, Cuba, J1 '42, p. 251-52)
- Strickland, William See 385.
- 392 Swartwout, Egerton, 1870-1943: obituary (Arch.Rec. v.93, p.100, Mr '43)
- Tite, Sir W; see 425
- Town and Davis; see R 58
- Vignola see 439
- Voysey, C.F.A. see 423
- 393 Walpole, Horace; Chace, I.W.; _____ gardenist, 1943 8°310 p.illus.
- 394 Warren, EP; Henry James and his architect (_____) port. il. (Arch.Rev. v. 93, p. 69-72 Mr'43)
- 395 Warren, Whitney, 1864-1943: Obituary port. (Arch.Rec. v. 93, p.98 Mr'43)
- Wren, Sir Christopher; churches of _____. see 401
- Wright, F.L. see R 45

GEOGRAPHICAL

EUROPE

See 363 (check list of European...architects)

France

- see also 524 (Rouen, bomb damage), R 43 S. Dennis, Abbey of
- 396 Bourg-la-Reine: Reinforced concrete house, by Hennebique; Treasure hunt, by P.F.R. Donner, il (Arch.Rev. Nov.'42)
- 397 Cluny. Mediaeval academy excavations at vii, K.J. Conant, Plates, plan (Speculum, v.17, p.563-65, O'42)

- 398 ____ The place of ____ in Romanesque and Gothic architecture. by K.J. Conant. Pl.11 (J.A.S.A.H. v.2, p.3-5 Jl '42)
- 399 Hotel de Tesse; A room from the ____, by Preston Remington. 11. (Met.M.Bul. ns v.1, p.189-95, F'43)

Germany

see 520a (Architectural education in nineteenth century Germany)

Great Britain

- see 359 (The Englishman builds), 363 (checklist of architects), 365 (Blomfield), 370, 371 (Cameron) 372, 373 (Cotman), 377 (Davies), 378 (Fielding), 380, 381 (Harris), 386, 387, R 45 (Lutyens), 390 (Reilly), 391 (Scott), 393 Walpole), 511 (British drawing room), 516 (English villages), 525, 526, R 44 (Bombed buildings), 527 (Bath, bomb damage), 528 (Birmingham, bomb damage), 529 (Cambridge, bomb damage), 532, 533 (Cliveden); 534 (High Barnet houses repaired), 530 (Liverpool, bomb damage), 535 (Polesden Lacy), 536 (Woolsthorpe), R 47 (Villagers of 13th cent.) R 54 (Old Church of London)
- 400 Bournville experiment; sixty years of planning: _____. Bournville, Village Trust, 1942 1^s
- 401 Churches; Wren ____ (in Architectural Casualties Series) by Edward Harley (Building S'42, p.198-200 O'42)
- 402 Country houses; Sackville-West, V. English _____. London, Adprint Ltd.; N.Y. Chanticleer, 1942, 48 p. 21 illus. 12 plates in color. Series: Britain in pictures.
- 403 Scottish castles; A society of ____ by G. Scott Moncrieff. 11 (Country L. Lond. v. 92, p.746-49, O 16'42)
- 404 Treasure hunt (continued) by F.F.R. Donner, 11 (Arch.Rev. v. 92, p. 151-53 D '42)
- 404a Berwick-upon-Tweed: Fortifications of, by L.P. Hall. pl. 11, constr. (Arch.Rev. p.81-82, Mr'43)
- 405 Charney Bassett; Manor House, _____. Berks I, II, by C. Hussey, 11 (Country L. Lond. v.92, p.602-05, 650-53, S. 25, O.2 '42)
- 406 Eversley, a Hampshire village. by C. Hussey. 11 (Country L. Lond. v. 93, p. 484-87 Mr 12 '43)
- 407 Harmondsworth (Essex), "Largest tithe barn" int. illus. (Country L. Lond. Sept. 11 '42 p. 514)
- 408 Hinton Waldrist, Berk by C. Hussey. site plan. 11. (Country L. Lond. v. 92, p. 1130-33 D 11 '42)
- 409 Holt, Wiltshire I, II: The court. by C. Hussey. 11. (Country L. Lond. v.93, p.26-9; 74-7 Ja 1 '43)
- 410 Inkpen, Old rectory, Berks I, II. 11, pl. (Country L. Lond. v.93, p. 308-11, 352-55 F 12, 19 '43)
- 411 Kingston House, Berks, I, II, by C. Hussey. 11 (Country L. Lond. v. 92, p. 890-93, 938-41, H.6, 13 '42)
- London, churches. See 401
- 412 ____ Bastion of ancient London uncovered by enemy action, drawing by S.R. Jones (Illus. London N. v. 201, p.471 O 24'42)
- 413 ____ plan for rebuilding; Monumental ____? Royal academy publicizes a scheme and scorns modern streamlining. 11. (Pencil P. v. 23, p. 8, M '42)
- 414 ____: The new Haussmann by L.G. Brett. Pl.11. criticism of the Royal Academy plan (Arch.Rev. v. 93, p. 23-26 Ja'43)

- 415 —, —; Postblitz London, il (Arch.For. v.77, p.35 D'42)
- 416 —, —; Royal Academy plans, by H.G. Fell. Pl.
(Connoisseur v.110, p. 160-61 D'42)
- 417 —, —; Royal Academy London plan; extracts from the
interim report, il. pl. (J. RIBA S.3. v. 49, p.216-8
O'42)
- 418 —, —; Royal Academy plan for central London, by C.H.
Reilly. il.pl. (Studio, p. 42-47 F'43)
- 419 —, —; Royal Academy plan for —. Opinions from the
national press and an illustrated review of the plan
(Archts. J. v.96, p. 258-70 O 22 '42)
- 420 —, —; Royal Academy planning committee's exhibition;
More plans. il.(Country L.Lond. v.92, p.897, N 6'42)
- 421 —, —; A vision of the new — plans by Sir Edwin Lut-
yeh's committee exhibited at the Royal Academy by
C. Hussey. il.pl.(Country L.Lond.v.92, p.692-96 O 9'42)
- 422 —; Army and Navy stores, Victoria St. Treasure Hunt by
P.F.R. Donner. il.(Arch.Rev. v.92 p.97-9 O'42)
- 423 — Villars by E.nest Newton and C.F.A. Voysey. Treasure
hunt by P.F.R. Donner. il.(Arch.Rev. Sept.'42, p.75-6)
- 424 Martock, Somerset. Purchase of the Old Rectory (Mus. J.
v.42, p. 170 O'42)
- 425 Nine Elms, An early railway station, original terminus of
the London and Southampton Railway, by Sir. W. Tite,
1837. il.(Building, London, p.281-83, O 2 '43)
- 426 Nunney Castle, Somerset, I,II, by C. Hussey. il.pl.(Country
L.Lond. v.93, p. 218-21, 264-67 Ja 26, F 5 '43)
- 427 Osbourne St. George (Wilts), Manor House, by C. Hussey.
il. survey plan (Country L.Lond.v.92, p.1226-29 D 25'42)
- 428 Saltwood Castle, Kent, I,II,III by C.Hussey. pl.il (Country
L.Lond. v.92, p. 986-89, 1034-37, 1082-85 N 20, 27
D 4'42)
- 428a Scrivelsby, Teapot hall; fallen into decay (a letter) il.
(Country L.Lond. v.92, p.896 N 6 '42)
- 429 Shobdon Church, Herefordshire, Rococo Gothic, ints. (Country
L. Lond. v.93, p.315-16 F 12 '43)
- 430 Steeple Ashton, a Wiltshire wool-market of long ago by
C. Hussey. il (Country L.Lond.v.92, p.794-97 O 23'42)
- 431 Stratford-on-Avon, Mason Croft. The home of a best seller
(Marie Corelli) by H. Casson. il. port. (Arch.Rev. v. 93,
p. 83-4, Mr '43)
- 432 Stroud valley doric. Stanley mill interior views showing
iron construction, also exteriors (Arch.Rev. v. 93,
p. 53-55 F '43)
- 433 West Hanney, Berkshire, a village by C. Hussey. il (Country
L. Lond. v. 93, p. 122-25 Ja 15 '43)
- 434 Wytham Abbey, Berkshire, how Oxford is benefiting by gift
and purchase. il (Country L.Lond. v. 93, p.400-01
F 26 '43)

Greece

- See also 518 (Greek discovery of perspective) R 48 (Greek walls)
- 435 Greek archaeology and history, correlation of; abstract
by W.B. Dinamoer (Am. J. Archaeol. v.46, p. 556 O'42)
- 436 Hellas; Hoyningen-Huene, George and others. —, a tribute
to classical Greece. N.Y. J.J. Augustin, 1943.
143 p. 64 photos.
- 437 Mycenae; New light on the facade of the Treasury of Atreus,
by D.S. Robertson (J. Hell. Stud. v. 61, p. 14-16 '41)

Ireland

See R 51 (Irish castles and castellated houses)

Italy

See also 367 (Bramante), 389 (Michelangelo)

438 Rome; Rand, E.K. The building of eternal. 1943. 318 p.

439 —, St. Peter's; Vignola and the little dome of. by John Coolidge. il (Marsyas, New York University. Institute of fine arts publication v.2. p. 63-123 pl. 32-40. 1942)

440 Tusculum; villa and tomb of Lucullus at —. by G.E. McCracken. bibliog. il. (Am. J. Archaeol. v. 46, p. 325-40 J1 '42)

Russia

See also 370, 371 (Cameron), 523 (the soviet architect)

441 Architecture and city planning in Soviet Russia. (Task: a magazine for the younger generation in architecture; published by students at Cambridge, Mass. Cambridge, No. 3, Oct. 42)

442 Face of Russia. Illus. of churches and other buildings in Russia. (Life v. 14, no.13, p.83-91 Mr 29 '43)

443 omitted

444 Soviet architecture today, by E. Carter. il. (Arch. Rev. v. 92, p. 107-114 N '42)

445 Wooden architecture of the Russian north, by S. Zavello and P. Maximov. il. (Arch. and Bldg. News. v. 173, p. 161-63 F 26 '43)

Spain

446 La custodia de la catedral di Sigüenza y su autor, by E. Camps Cazorla. il. (Archiv. Espan. Arte no. 47. p. 461-72 S '41)

447 Estudios del barroco gallego; el claustro de la catedral de Lugo. bibliog. (Archiv. Espan. Arte no. 43, p. 133-37 Ja '41)

448 Alcala de Henares; La acropolis de —. Azalia, Teruel J. Cabre Aguilo (Archiv. Espan. Arqueol. no. 42. p. 232-35 Ja '41)

449 Jaca, Santo Domingo; Restos del siglo XI en la iglesia de — de — (Archiv. Espan. Arte no. 50, p.112 Mr '42)

450 Ovila, Monastery of Santa Maria de —, gift of William R. Hearst, by A. Fried. il (Pacific Art R. v. 1. nos 2, p. 36-39, 1941.

451 —, —; Notes on — de —, its founding and architecture by A. B. Cutts, Jr. il. pl. bibliog. Now a part of the De Young Museum, San Francisco (Pacific Art Review, v. 2, no. 1-2, p. 28-38 '42)

452 Sacramenia, Monastery; Hearst's white elephant finally knocked down (J. ASAH. v.2, p.33-34. J1 '42)

453 Salamanca, New cathedral; Sobre la torre de la catedral nueva de —. (Archiv. Espan. Arte no. 47, p.473-74 S '41)

454 Toledo, Cathedral; Unos proyectos maiogrados de Narciso Tome en la — de —. by F. de B. de San Roman y Fernandez. il (Archiv. Espan. Arte no. 47, p.429-44 S. '41)

Sweden

- 455 Swedish architects and architecture today, by W.G. Holford.
11 (J. RIBA ns v.50, p. 58-61 Ja '43)

Turkey

- 456 Istanbul: The mosaics of Haghia Sophia at ____: 3rd preliminary report (work done in 1935-38. The imperial portraits of the south gallery) 1942. 40 87 p. color frontis. 37 plates.

AFRICA

Egypt

- See also 368 (Breasted), R 46 (General)
457 Saqqara graph; its geometrical and architectural significance, by R.S. Williamson (Nature. v.150, p.460,607, O 17, N 21 '42)

ASIA

India

- 458 In the land of the Great Mogul, by R.A. Wefle (Cath. World v. 155, p. 679-88 S '42)
459 Twenty-fifth year (J. RIBA s.3. v.49, p.151 J1 '42)

Iran

- 460 Iran in the ancient east by E.E. Herzfeld (Art. Bul. v.24, p. 405-07 D'42), (Burl.Mag. v.82, p.51 F '43)
461 Nishapur: Museum's excavations at ____ by W. Hauser and C.K. Wilkinson. 11, map (Met. Mus. Bul. v.37, p. 83-119 4p'42) (Abstract, Am.J. Archaeol. v. 46, p. 554-55 O'42)

Japan

- 462 Buddhist architecture: Soper, A.C. The evolution of ____ in Japan. Princeton. Princeton Univ. Press, 1942 330 p. plates. plans.

Mesopotamia

- 463 Temples; Delougaz, Pinhas and Lloyd, S. Pre-Sargonic ____ in the Diyala region. Chicago. Chic. Univ. Press, 1942. 320 p. illus. plans, maps, diagms. (Univ. of Chicago Oriental institute publications, v. LVIII)

Palestine

- 464 Albright, William F., Archaeology and the religion of Israel (Ayer lectures, 1941) 1942 238 p. 80

Syria

- 465 Hama; Danish excavations at Hama on the Orontes by H. Ingholt. 11 (Am.J. Archaeol. v. 46, p. 469-76 O '42)

NORTH AMERICA

Central America

- See also 349 (Arts, craft, customs) 503 (Guides)
466 Guatemala. Maya temple grows up; archaeologists in ____ reveal evidence of five-times reconstructed temple by L. Satterthwaite, Jr. 11. diagrs. (Sci. Am. v.167 p. 18-19 J1 '42)

Mexico see also 503 (Guides)

- 467 Mexican urbanism in the sixteenth century by G.A. Kubler.
il. plans. bibliog. (Art Bul. v. 24, p. 160-71,
Je. '42; Reply with rejoinder by H. E. Wethey. v. 24,
p. 384-86 D '42; Abstracts, College Art J. v. 1,
p. 65 Mr '42; Am. J. Archaeol. v. 46, p. 563 O'42)
- 468 — Ten churches in search of a scholar by D. Odenheimer.
il (Mag. Art. v. 35, p. 241-45 N'42)
- 469 — Tecali. Zacatlan and the renacimiento purista in
Mexico by J. McAndrew and H. Toussaint. il. plans
bibliog. (Art Bul. v. 24, p. 311-325 D '42)

United States

- See 512 (The brown decades revisited), 363 (Checklist of
American architects), 369 (Buffington), 374, 375
(Cram) 383, 384 (Kahn), 386-388 (Lutyens), 392
(Sturtevant), 394 (Warren), R 45 (Wright, F.L.).
- 470 Metropolitan Museum of Art, American Wing. A handbook
by R.T.H. Halsey and Charles O. Cornelius. 7th ed.
rev. by Joseph Downs. New York. Printed and sold by
the museum, 1942. xxxii, 321 p. illus. plans.

U.S. Northeastern States See R 53 (Newport Tower, R.I.)

- 470a Old Bay paths by George F. Marlowe. Photographs by Samuel
Chamberlain. N.Y. Hastings House, 1942. 126 p. il.
- 471 Connecticut, Hartford; St. Joseph's cathedral; new founda-
tions provided for a nineteenth century cathedral by
G. F. Flay, Jr. (Civil Eng. v. 13, p. 85-86 F '43)
- 472 —, Middletown: The Barnes house, by J.F. Kelly. il.
pl. meas. drawings. (Old Time N.E. v. 33, p. 46-52
Ja '43)
- 473 —, New Haven: Sachem's Wood, one of the earliest Greek
revival mansions in the U.S. by R.H. Newton. il.
(Old Time N.E. v. 33, p. 33-36, O '42)
- 474 Massachusetts.
—, Cambridge: Historic — in the four seasons.
New York. Hastings House. 1942. 73 p. illus.
—, Lowell, R 52

U.S. Middle Atlantic States

- 475 District of Columbia, The Capitol. by J. Downs. il.
(Met. Mus. Bul. ns. v. 1, p. 171-74 Ja '43)
- 476 Maryland; architectural relics of —. Photographs by
F.B. Johnston (Baltimore Mus. H. v. 5, p. 8 D'42)
- 477 New York. Fort Ticonderoga comes to life in a colorful
map by E.W. Watson. il. (Am. Artist v. 6, p. 25-29 N'42)
- New York, Hudson Valley, historic houses, see R50
- 478 —. Mohawk country, Vrooman, John D. ed. Forts and fire-
sides of the —. Phila. 1943, 40, 240 p. 70 pl.
- 479 — New York City. Monaghan, Frank and Lowenthal, Marvin.
This was New York. N.Y. Doubleday, 1943.
- 480 —. On the embattled Battery (Castle Garden) by
C.M. Stow. il. (Antiques v. 42, p. 200-201 O'42)

- 481 _____. New York's skyline sits for a long portrait,
photographs, 1880-1932 (Life, v.13, p. 12-13 Ag 31'42)
- 481a New York, on Wall Street in the days of Duncan Phyfe:
Pearsall drawing room at the Museum of the City of
New York. il (Art N. v.41, p.19 Ja 15 '43)
- Pennsylvania, Philadelphia, Bank of U.S. see 385
- _____ State house see 379.

U.S. South Atlantic States

- 482 South Carolina, Charleston: Drawing room and dining room
from the Colonel John Stuart house, _____, at Minneapolis
Institute. il. (Antiques v.43, p.88 F'43)
- 483 Virginia, Court houses. Milhollen, Hirst Dillon, Old Vir-
ginia court houses: forty original etchings. (Alex-
andria, Priv. print) 1942 2 p., 40 pl.
- 484 _____. Arlington. Lee mansion. Truett, Randle B. Lee Mansion.
New York. Hastings House, 1943. 57 p. il.
- _____, Williamsburg; preservation. See 538.

U.S. North Central States

- 485 Illinois, Bishop Hill; an experiment in communal living,
by S.L. Norton. il. (Antiques, v.43, p.74-77 F'43)
- 486 _____. Chicago; city in a garden; _____ before the fire of
1871, by J. Drury. il. (Antiques, v.43, p.66-69 F'43)
- 487 _____. New Salem; pioneer village restored, by H.M. Belting.
il. (Antique; v.43, p.63-65 F'43)
- 488 Indiana, Vincennes; Grouseland and its early builders by
M.O. Whitton. il. (Am. Collector, v.12, p.8-9 F'43)
- 489 Michigan, Detroit; Archives of _____ architecture (exhibition
to be assembled February 1943 by Hawkins Ferry)
(J. ASAH v.2, p.32 Jl '42)
- 490 _____. Representative _____ buildings, 1823-1943, by
Hawkins Ferry. Exhibition, Detroit institute of arts.
il. (Bul. Detroit Inst. of Art, v.22, no.6, p.46-64
Mr. '43)
- 491 Missouri, St. Louis; _____ in 1863; painting by H. Lewis
acquired by the St. Louis city art museum. il (Art
Digest, v.16, p. 11 S'42)
- 492 Montana, Hagen; The _____ site; a prehistoric village on
the Lower Yellowstone by William Mulloy. Harry
Holbert Turney-High, editor. Missoula, 1942. 106 p.
illus. (Univ. of Montana publications, Social sciences
No. 1)

U.S. South-Central States

- 493 Mississippi, Board of development. Industry and advertis-
ing section. Historical _____. Jackson. 16 p. folder,
historical map on verso.

U.S. Southwestern States

- 494 New Mexico. Architectural revival in the southwest;
churches in _____ built by Pueblo Indians by M.A. Wilder.
il. plan (Liturg. Arts, v. 11, p. 2-4 N '42)
- 495 _____. National Park Service; Artec ruins national monument.
Wash. D.C. GPO 1942 14 p. illus.

- 496 Stockaded settlements; Hall, Edward T. Jr. Early
in the Gobernador. 1943 8° illus. 96 p.
(Colorado studies in archaeology and ethnology
II, 1)
- 497 Tourist bureau, Highway dept.; Battlefields of the
conquistadores in . Santa Fe. 1942 12 p.
folder, historical map.
- 498 , Santa Fe; Knee, Ernest, Santa Fe. N.Y. Hastings House,
1942. 101 p. il.
- 499 . Old , guide to the city and vicinity and
to the Museum of New Mexico. Santa Fe, Histori-
cal Society of New Mexico, 1942. 36 p. il. bibliog.
- 500 Texas, San Antonio; Sides, Joseph C. Fort Brown historical.
San Antonio, Naylor Co. 1942 172 p. il. maps

U.S. Pacific States

- 501 California; Archaeological reconnaissance of northeastern
Baja California and southeastern California by A.E.
Troganza. il. map. bibliog. (Am. Antiq. v.8, p. 152-
63, O'42)
- 502 Historio de la Guerra adobe by Clarence Cullimore
(Arch. and Eng. v. 152, no. 3, p. 24-5 Mar '43)

SOUTH AMERICA

- 503 Hanson, E.P. ed: The new world guides to the Latin-American
republics. vol. 1: Mexico and central America. vol.2
South America, 1943 12°

Brazil

- See also 357, 358 (exhib.)
- 504 Architecture of Brazil by P. Goodwin. map. plans. diags.
(Arch. Rec. v. 93, p. 34-56 Ja '43)
- 505 Architecture; Goodwin, Philip L. Brazil builds, old and
new. 1652-1942. Photographs by G.E.R. Smith. N.Y.
Mus. Mod. Art. 1943.
- 506 Modern Brazil. il. (Life, v. 13, p. 132-34 O 26 '42)

Peru

- 507 Atrios y capillas arietas en el Peru. Bibliog. (Archiv.
Espan. Arte, no.43, p. 173-76 Ja '41)
- 508 Strong, W.D. Willey, G.R. and Corbett, J.M. Archaeological
studies in Peru, 1941-42 (Colorado Studies in Archaeol.
and Ethnology, I, 1-4, 1943 8°, 232 p. 24 pl.

CHRONOLOGICAL See 353a (Art history)

Prehistoric see 492 (The Hagon site)

- 509 Engineering prehistory by S.J. Moore. Notes on primitive
structures (Journal of the Junior Inst. Engineers
O '42 p. 1-13)

Ancient See 362 (Archaeology) R 49 (Archaeol)

Egypt: R 46 (Architecture and culture), 368 (Breasted) 457 (Saq-
quara graph), Greece: 435 (Archaeol), 436 (Hellas), 518 (Perspec-
tive), 437 (Treasury of Atreus), R 48 (Walls); Roman: 438 (Rome),
440 (Villa and tomb of Lucullus), 412 (Ancient London); Iran,
460 (Ancient), 461 (Nishapur); Mesopotamia: 463 (Pre-Sargonic
temples); Palestine: 464 (Archaeol); Syria: 465 (Hama).

Medieval see 522 (Medieval architect), 516 (city planning)
France: 397, 398 (Cluny), 524 (Rouen), R 43 (St. Denis);
Great Britain: 404a (Fortifications), 426 (Munsey castle),
403 (Scottish castles), 428a (Scrivelsby) 407 (Tithe barn),
516 (English towns), R 47 (villages) 434 (Wytham Abbey);
Ireland: R 51 (castles); Japan: 462 (Buddhist architecture);
Russia: 445 (wooden architecture); Spain: 450, 451 (Santa Maria de
Ovila), 452 (Sacramenia, monastery), 449 (Jaca, S. Domingo); Turkey:
456 (Hagia Sophia), United States: R 53 (Newport tower), 495 (Aztec
ruins); Central America: 466 (Maya temple); Peru: 508 (Archaeol)

Renaissance see 350 (General) 516 (city planning) Italy: 367
(Bramante), 389 (Michelangelo), 439 (Vignola), 438 (Ancient Rome)

Post Renaissance See 516 (city planning)

France: 399 (Hotel de Tesse); Great Britain: 370, 371 (Cameron),
378 (Fielding), 429 (Shobdon church) 516 (English towns), 393
(Walpole), 401 (Wren churches); Russia: 445 (wooden architecture);
Spain: 447 (Lugo cathedral), 453 (Salamanca, new cathedral);
Mexico: 468 (churches), 469 (Zacatlan), 467 (Urbanism); United
States: 472 (Barnes House, Middletown, Conn.), 474 (Cambridge,
Mass.), 470 (Met. Mus. American wing), R 50 (Hudson valley homes),
477 (Fort Ticonderoga), 479 (New York), 478 (Mohawk country),
379 (State house, Phila.) 476 (Maryland's architecture), 483
(Virginia court houses), 538 (Williamsburg), 493 (Mississippi),
497 (Battlefields in New Mexico), 498, 499 (Santa Fe), 496 (Stock-
aded settlements, New Mexico), 501 (Calif. archaeol) 502 (Guerra
adobe); Brazil: 357, 358 (exhib), 504, 505 (General); Peru:
507 (General), 503 (Latin American Guides).

Nineteenth Century - See R 56 (Gen.) 521 (Pattern books), 516 (city
planning); France: 396 (Reinf. concrete house); Germany: 521
(Architectural education); Great Britain: 365 (Blomfield), 372,
373 (Cotman), 380 (Harris), 400 (Bournville
experiment), 532, 533 (Clivedon), 425 (Early railway station),
432 (Stanley mill), 404 (Treasure hunt), 422 (Army-Navy stores,
London), 423 (villas), 515 (English towns), U.S., R58 (Town and Davis).

511 A room of the nineties by O. Lancaster; illustrations of a
British drawing room (Country L. Lond. v. 93, p. 168-69,
Ja 22 '43)

United States: 369 (Buffington), 385 (Latrobe, Strickland), 394
(Warren, E.T.), 471 (church), 474 (Cambridge), 473 (Greek revival
mansion), R 52 (Lowell, Mass.), 481 (New York City), 481a (Drawing
room), 480 (New York City) 478 (Mohawk country), 475 (the Capitol),
476 (Maryland architecture), 484 (Lee mansion), 482 (John Stuart
house), 485 (Bishop Hill, Ill.), 483 (Court houses, Va.), 486
(Chicago), 487 (New Salem, Ill.), 488 (Vincennes, Ind.), 489, 490
(Detroit architecture), 491 (St. Louis), 493 (Mississippi) 498,
499 (Santa Fe), 500 (Fort Brown, Tex.).

512 The brown decades revisited by Robert L. Anderson
(J. ASAH, v.2, p. 14-25, Jl '42)

Twentieth Century. See R 56, R 57

355 (Education), 364 (Bayer), 521 (Pattern Books), 516 (City planning).

513 Davidge, W.R. Plan for the new architecture. Lond. Dent. 1942. illus.

514 Museum of modern art. What is modern architecture? N.Y. 1943. 36 p. il. plans.

Great Britain: 365 (Blomfield), 386, 387 (Lutyens), 390 (Reilly), 391 (Scott), 413-421 (London), 516 (English villages); Russia: 444 (architecture today), 441 (city planning); Sweden: 455 (architects and architecture); United States: 364 (Bayer), 374, 375 (Cram), 383, 384 (Kahn), 392 (Swartwout), 395 (Warren, W.), R 45 (F.L. Wright), 481 (New York City), 494 (churches in New Mexico) 489, 490 (Detroit buildings); South America: 503 (Guides); Brazil: 504-506 (architecture)

BUILDING TYPES

Agricultural: 407 (Tithe barn)

City planning: 400 (Bournville), 413-21 (London), 444 (Russia), 467 (Mexico), 487 (New Salem, Ill.), 492 (The Hagen site), 496 (stockaded settlements), R 47 (English)

515 Badmin, S.R. Village and town. A Puffin picture book. Harmondsworth, Middlesex, 1942. illus.

516 Saarinen, Eliel. The city, its growth, its decay, its future. Rheinhold. 1943. 8°

Commercial: Banks: 385 (Bank of U.S. Phila.).

Educational: Museums, 362a (Wartime duties)

Gardens: 393 (Walpole)

Governmental: Courthouses, 483 (Virginia)

Industrial: 383 (Kahn), 432 (Stanley Mills), R 52 (Lowell)

Military: 404a (fortifications, Berwick-upon-Tweed), 412 (Ancient London), 426 (Munsey Castle), 477 (Ft. Ticonderoga), 480 (Battery, N.Y.C.), 500 (Ft. Brown, Tex.), 422 (Army and Navy stores, London)

517 Development of army camp planning. by C. O. Beardsley (Civil Eng. v. 12, p. 489-92, S 42)

Religious; Churches: 397, 398 (Cluny), 401 (Wren churches) 429 (Shobdon Church), 439 (S. Peter's domes), 442 (Russia), 447 (Cathedral de Lugo), 449 (S. Domingo, Jaca), 453 (Salamanca), 456 (Hagia Sophia), 462 (Japan), 469 (Mexico), 471 (S. Joseph's Hartford), 494 (New Mexico), R 54 (London); Temples: 463 (Pre-Sargonid, Mesopotamia), 466 (Guatemala); Monastic: 450-451 (Santa Maria, Ovila), 452 (Sacramenia) R 43 (S. Denis, Abbey)

Residential: 402 (English country houses), 403 (Scottish castles), 405 (Manor house, Charney Bassett), 409 (The Court, Holt), 410 (Old rectory, Inkpen), 411 (Kingston House), 423 (Villas by Newton & Voysey), 427 (Manor house,

Ogbourne St. George), 428 (Saltwood castle), 428a (Teapot hall, Scrivelsby), 472 (Barre's house, Middletown), 473 (Sachem's Wood, New Haven), 478 (Mohawk country), 484 (Lee mansion), R 50 (Hudson valley) 532, 533 (Cliveden), 536 (Woolthorpe); Villas: 440 (Tusculum); Castles: R 51 (Irish)

Tombs: 437 (Treasury of Atreus), 440 (Tomb of Lucullus)

Transportation: Railway stations; 425 (Nine Elms)

STRUCTURAL TYPES: 509 (Primitive structures), R 48 (Greek walls), 502 (adobe); Iron: 432 (Stanley mill), 369 (Minneapolis 1880's); wood: 445 (Russian north); Concrete: 384 (Kahn), 396 (House by Hennebique).

ARTHETIC:

- 518 Perspective: The Greek discovery of _____; its influence on Renaissance and modern art by G. L. Levy. il. (J. RIBA ser. 3, v. 50, p. 51-7, J'43)
- 519 Venetian blinds, a standard text book for the furnishing and blind-making trades. Manchester. Thos. French and Sons, 1941. 296 p. 4^o (includes history)
- 520 Wall, by E. K. Mundt. il. plans (Art Q. v. 5, no.4, p. 300-13 '42)
- 367 (Bramante), 399 (Room from Hotel de Tesse) 456 (Mosaics, Hagia Sophia), 481a (Pearsal drawing room, N.Y.), 511 (19th century English drawing room)

PROFESSIONAL See R 55 (on being an architect)

Education: see 354, 354a.

- 520a Architectural education in nineteenth century Germany, by Paul Zucker. bibliog. footnotes. (J. ASAH, v.2, J1 '42, p.6-13)
- 521 End of the pattern-books, by F.R. Donner. il. pl. (Arch. Rev. v.93, p. 75-79 J1r '43)
- 522 The term "Architect" in the middle ages, by H. Pevsner (Speculum, v.17, p.549-62 O '42)
- 523 The Soviet architect, by Hannes Meyer. il (Task, no.3.p.24-32, O'42)

PRESERVATIONISM

Damage to monuments

France:

524 Rouen, 1940 (from United Press) (J. ASAH. v. 2, p.30 J1'42)

Great Britain: See R 44 (bombed buildings)

- 525 Bomb damage to notable buildings. il. (Arch.Rev. v. 92, p. 123-24, N'42)
- 526 Bombed British buildings. il. (Arch. For. v.77, p.65-69, N'42)
- 527 Bath, 2nd installment. Bomb damage to notable buildings. il. (Arch.Rev. v. 93, p. 73-74, J1r '43)
- 528 Birmingham; bomb damage to notable buildings. il. (Arch. Rev. v. 92, p. 150, D '42)
- 529 Cambridge; bomb damage. il (Archts. J. v. 96, p.216, O 1'42)
- 530 Liverpool; bomb damage to notable buildings (Arch.Rev. v.93, p. 21-2, Ja '43)

United States

- See 473 (Sachem's Wood, New Haven), 480 (Battery, N.Y.C.)
531 In memoriam monumentor~~um~~ New England, 1936-42 (J.A.S.A.H.,
v. 2, p. 30, J1 '42)

Preservation

Great Britain See 434 (Wytham Abbey)

- 532 Clevedon given by Lord Astor to the National Trust.
Built from designs by Sir Charles Barry, 1850-51.
il. (Country L. Lond, v.92, p. 1170-71 D 18 '42)
533 Clivedon for the nation. (Arch.Rev. v.93, p.38 F '43)
534 High Barnet houses. il (Country L. Lond. v. 92, p. 1088
D 4 '42)
535 Polesden Lacy, Surrey bequeathed by the late Mrs. Ronald
Greville to the national trust. il. (Country L.
Lond. v. 92, p. 1075, D 4 '42)
536 Woolsthorpe; Isaac Newton at ____ by S.P.B. Mais. port.
il. of house acquired through the Pilgrim trust.
(Country L. Lond. v. 92, p. 1224-5, D 25 '42)
537 (Four points with regard to scrap campaign and objects of
historic interest. Statement at executive committee
of the southern N.E. conference of historical socie-
ties) (Old Time N.E. v. 33, p. 56 J'43)

United States

- See 482 (Colonel John Stuart house, Charleston); 489 (Detroit
architecture)

Restoration

- U. S. 471 (St. Joseph's Cathedral, Hartford); 487 (New Salem, Ill).
538 Colonial Williamsburg; how Americans handle a restoration,
by A.C. Bossom (Royal Soc.Arts. J. P.634-43, S 4 '42)

REVIEWS OF ARCHITECTURAL BOOKS

- R 43 Abbey of St. Denis, 475-1122. by Sumner Crosby. Review of, v.1.
(Liturg. Arts. v. 11, p. 17-18, N '42)
(Mag. Art. v. 35, p. 271, N '42)
R 44 Bombed buildings of Britain, by J.M. Richards
(Arch. Rec. v. 92, p. 26, O '42) by E. Coit
(Pencil P. v. 23, p. 92, N '42)
(Archts. J. v. 96, p. 368 D 3 '42)
R 45 The cyma and the hollyhock. by L. Bratt. A review of Sir
Edwin Lutyens: An appreciation in perspective and in
the nature of materials, buildings of F.L. Wright, 1887-
1941 by H.R. Hitchcock. il. (Arch. Rev. v. 93, p. 80-81
Lr '43)
R 46 Egyptian architecture as cultural expression. by E.B. Smith
(Am. J. Archaeol. v. 46, p. 571-74, O '42)
R 47 English villagers of the thirteenth century. by G.C. Homans
(Speculum, v.17, p.420-22, J1 '42) J.L. Gate
R 48 Greek walls, by R.L. Scranton (Am. J. Archaeol. v. 46,
p. 581-84 O '42)
R 49 Handbuch der Archæologia. by W.G.A. Otto. Review of vol.1
(Am. J. Archaeol. v. 46, p. 570-1, O '42)

- R 50 Historic houses of the Hudson valley. by H.D. Eberlein and C. V. Hubbard (*Antiques*, v. 42, p. 153, S '42) (Pencil P. v. 23, p. 100 A'42) J.C. Seward
- R 51 Irish castles and castellated houses. by H.G. Leask (*Arch. Rev.* v. 92, p. 29, J1 '42) (*Speculum*, v. 17, p. 424-5, J1 '42) H. O. Hencken
- R 52 Mill and mansion, a study of architecture and society in Lowell, Mass., 1820-1865. by J.P. Coolidge (*Arch. Rec.* v. 92, p. 20 S'42) by E. Coit (*Mag.Art.* v. 35, p.229 O '42) by F. Gutheim; (Pencil P. v. 23, p.80 O '42) by R.H. Newton
- R 53 Newport tower, by P.A. Means (*Speculum*, v.17, p.428-30 J1 '42) K.J. Conant.
- R 54 Old churches of London, by G. Cobb (*Apello*, v. 36, p. 21, J1 '42) (*Burl. Mag.* v. 81, p. 207 Ag '42) H. Hope-Nicholson; (*Connoisseur*, v.110, p.83, S'42) H.G. Fell; (*Mus.J.* v. 42, p. 153-54, S'42) (J. RIBA, ser.3, v.49, p.155, J1 '42) F. H. Mansford; (*Archts. J.* v.96, p.411, D 24 '42) F. Gibberd
- R 55 On being an architect, by William Lescage (*Arch. For.* V. 77, p.16 S'42) (*Liturg. Arts* v. 10, p.96, Ag '42) W.K. Sturges; (J. RIBA. ser.3, v.49, p.195, S'42) S.C. Ramsey; (*Task*, no.3, p.21-23, O'42) W. H. Radford
- R 56 Space, Time and architecture; the growth of a new tradition, by S. Giedion (*J.Aesthetics*. v.1, p.128-9, '41) K.J. Conant; (*Burl.Mag.* v.82, p.25-6, J '43)
- R 57 Studies in the arts and architecture. Review by H. Read (*Arch.Rev.* v.93, p.84, Mr '43)
- R 58 Town and Davis, architects; pioneers in American revivalist architecture, 1812-1870, by R.H. Newton (*Octagon*, v.14, p.18, S '42) (Pencil P. v.23, p. 100, Ag '42)

